

INDIA RUBBER WORLD

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Vol. XXI. No. 1.

OCTOBER 1, 1899.

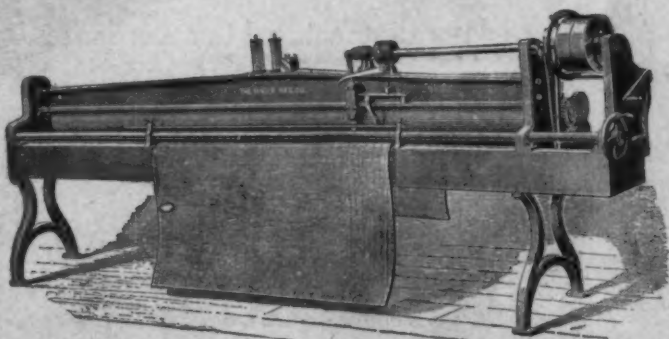
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Published on the 1st of each Month by

THE INDIA RUBBER PUBLISHING CO.

120-122 LIBERTY ST. NEW YORK, U. S. A.

LONDON OFFICE, 225 STRAND, W. C.

JNO. R. DUNLAP.

H. C. PEARSON.

Vol. 21.

OCTOBER 1, 1899.

No. 1.

SUBSCRIPTIONS: \$3.00 per year, \$1.75 for six months, postpaid, for the United States and Canada. Foreign countries, same price. Special Rates for Clubs of five, ten or more subscribers.

ADVERTISING: Rates will be made known on application.

REMITTANCES: Should always be made by bank draft, Post Office Orders or Express Money orders on New York, payable to THE INDIA RUBBER PUBLISHING COMPANY. Remittances for foreign subscriptions should be sent by International Post order, payable as above.

DISCONTINUANCES.—Yearly orders for subscriptions and advertising are regarded as permanent, and after the first twelve months they will be discontinued only at the request of the subscriber or advertiser. Bills are rendered promptly at the beginning of each period, and thereby our patrons have due notice of continuance.

Entered at New York Post Office as mail matter of the second-class.

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SPECIAL NOTICE.

IN announcing last month a Tenth Anniversary Number of THE INDIA RUBBER WORLD, to appear on October 1, it was intended merely to commemorate, in a modest way, the completion of the first decade in the history of our journal by giving a general review of the trade which it represents. The amount of available material of value has been found to be so much greater than was anticipated, however, that it has been determined to extend the scope of the special number, making it necessary to postpone the publication somewhat. We are sure that our readers will feel compensated for the delay, since it will result in giving them a more adequate record of Ten Years of Progress in Rubber—one which is certain to prove the most notable single publication that has ever appeared in this field.

THE FUTURE OF RUBBER GOODS PRICES.

PRICES of iron and steel and various other commodities have advanced during the past few months at a rate never before known in the same length of time in the American market. It seems that the cause has been a revival of industrial undertakings and of confidence in financial and commercial circles in the United States, at the same time that an unparalleled demand for products has been experienced throughout the world. So long as the consumption of American iron, for example, was confined at home, a period of depression meant reduced demand, falling prices, and closed furnaces. Now, however, since the United States have taken a more important position in the world's markets, iron from this country is offered to buyers wherever they may happen to be, and taken freely in competition with the product of the countries that have been longest in the export trade. Hereafter Africa or India or China will buy American iron as readily as any other, if they can get it as promptly or at as low prices.

Hence quotations on leading commodities will depend not upon conditions of supply and demand in the home market alone, but on supply and demand in the world's markets considered as a whole. It is quite possible that the liberal scale of buying for home consumption which has been experienced in many lines in the United States may decline before long, but this promises to be a less serious matter since American manufacturers have gained a better footing in outside markets. A failure to sell goods in one market leaves them at least the possibility of doing business in another, instead of their cutting each other's heads off, as used to be the case when buyers were few and had to be tempted by reckless price cutting.

There has been no contemporaneous advance in rubber goods prices, an advance in this branch having occurred before the beginning of the "boom" in iron and lumber. When there was a recovery from the limited demand for rubber goods in the United States a year or two ago, it was found that the rubber manufacture had made such progress in other countries as to render the raw material comparatively scarce. With the return of activity, buyers

were willing to pay somewhat higher prices for rubber goods than during the period of depression, though the manufacturers claim that they have not yet been able to obtain an advance commensurate with the increased cost of crude gum.

Without doubt the highest point in the way of prices has been reached in most lines of products. What American rubber manufacturers now have to consider is whether, when the tendency toward a decline begins, they will be forced to yield, as they have always done, or will have enlarged their scope of trade to include a better share of the world's markets. For reasons given above the iron and steel trades may view calmly any falling off in home demand; the rubber industry, however, is hardly so well situated. But the constant increase which is taking place in the consumption of rubber in every continent affords an opportunity for American rubber manufacturers—the same as for their competitors abroad—to secure a share of foreign orders such as shall serve as a balance wheel for the regulation of prices. Otherwise, they may expect to see the prices of goods fall with every temporary decline in buying at home, no matter what crude rubber costs.

THE OUTLOOK FOR CAUCHO.

THE INDIA RUBBER WORLD has attempted for some time past to settle the matter of the future outlook of the grade of rubber known as Caucho. In May, 1899, we published a careful study of the situation as it occurred to Mr. Fred J. Hessel, sub director of The Orton (Bolivia) Rubber Co., Limited, after a long residence in the center of the Caucho producing country as previously known. Mr. Hessel's conclusion, however, that the production of Caucho is declining, has not been borne out by the facts, which are that more Caucho is exported from the Amazon each year. It became evident, therefore, that there must be sources of Caucho in regions before unknown in this connection. On another page of this issue is printed a communication from Dr. J. Huber, of the Pará Museum, throwing some important light upon this matter. Furthermore, the important fact has been demonstrated that the Caucho tree of the Amazon is none other than the *Castilloa elastica*—the rubber tree of Central America. The value of this discovery is twofold. It will give a new incentive to rubber gathering in Brazil to find that the higher lands of the interior yield this valuable product, as well as the inundated lands on which the *Hevea* flourishes. A second consideration is that, if the Caucho tree is really the *Castilloa elastica*, it will be possible to produce from it, by the employment of better methods, a rubber of better quality than what is now sold as "Peruvian" rubber or "Caucho." Dr. Huber has written an exhaustive report of his investigations for the *Boletim do Museu Paraense*, pending the publication of which he has consented to favor THE INDIA RUBBER WORLD with the letter which appears on another page. This is the most important statement bearing upon the continued plentiful supply of rubber that has appeared for a long while.

NEW POSSIBILITIES IN RUBBER.

THE long list of patents which have been granted in the last half century for inventions involving the use of rubber need not deter the factory superintendent or other worker in rubber to-day from attempting to make further discoveries in this field. Nor need one be discouraged by the fact that so many patents are never heard of after the grant has been made by the government. This always has been true since the patent office was first established, and doubtless always will be true, just as only a small proportion of those who engage in business ever reach a large measure of success. So long as the world moves forward there must be new wants to be filled and new conveniences to be supplied, some of which will require the use of rubber in new forms that will be patentable. If every man who attempts to meet one of these wants can not profit from it, shall no one attempt to meet them?

There is no prospect of another such success, in the particular field in which Goodyear worked, as that which made his name famous. But the man who succeeds in producing a practical artificial rubber will become as famous as Goodyear, and ought to make a great deal more money. Likewise a field exists for improvements in the treatment of rubber in the initial processes. The time is sure to come when the world will no more depend for its supply of crude rubber upon the primitive methods of ignorant workers in tropical forests than it does now for its supply of wheat and sugar. Of necessity rubber always must come from the tropics, but in time it will come much better prepared for the processes of the factory, with the result of reducing factory expenses, if it does not lower the cost of first production, and both reputation and fortune await the men who are responsible for the improvement. The true nature of coagulation remains to be discovered, and the best methods of effecting this process, and when these are known and more scientific methods are employed in making rubber, there may be a revolution in the compounding of rubber as well.

But nearer at home and nearer in point of time are pressing problems that ought to be inviting to the rubber man of an inventive turn of mind. There is not a manufacturer or prospective manufacturer of automobiles in the world who is satisfied with the rubber tires now available for such vehicles. When an order for 4200 electric carriages was placed recently with an American company, the contractors informed THE INDIA RUBBER WORLD that they did not know what kind of tires would be used, and this after they had been experimenting for a year with every form of rubber vehicle tire that they could hear of. It is necessary only to keep one's ears and eyes open to find other lines of heavy rubber goods in which there is room for improvement, and where improvement will yield large profits for the successful inventor, provided he possesses the business sense to handle his discovery properly.

But there are still chances for profit in the smaller lines of invention in rubber, as well. Some of these, in the past, have paid better than the larger articles of manufacture. The invention of means for making hollow rubber balls

has proved profitable in recent years; the owner of the patent for the ordinary rubber beer stopple is reputed to have collected millions of dollars in royalties; and many other small inventions in rubber have yielded fortunes. It must be inferred that equally good chances for success will exist until the world has become so well provided with conveniences that nothing more is lacking. Only a year or two ago an important American rubber company brought out a small patented novelty, for the amusement of one of the proprietors, but which met an immediate welcome, at home and abroad. Orders came from persons before unknown to the manufacturers, and from countries in which they had made no attempts to secure business. The article supplying a want so widespread, though previously unsuspected, and the manufacturers having a monopoly of its production, they were able to charge a good price for it, with the result that this seeming trifle has yielded more profit than some of the staple lines in which the firm have had to face the competition of the whole rubber industry.

The rubber inventions of the past which have proved of use to the world and of value to the inventors have not been the result of mere accident, as will be plain from reading the biographies of Goodyear and Hancock. Nor have they been brought about by men who were content merely to follow in the footsteps of their predecessors. They have been the result of such painstaking study and effort as that which the late Joseph Banigan pursued when, as a beginner in a rubber factory on a small salary, he devoted all his spare hours to finding out what new possibilities the industry might have in store for him. Such an example, in respect to thoroughness and application and experimenting, is the one to be followed by the beginner in rubber who hopes to reach real success in his chosen field.

WHILE EVERY INDICATION POINTS to a wide use in the near future of various types and styles of automatic vehicles, opening a wide new field for the use of rubber, and for the skill of rubber men in the evolution of tires suited to the new demand, it is impossible that the introduction of these vehicles on a large scale should make such rapid progress as some writers appear to be looking for. *The Electrical World and Engineer* (New York), in a recent article, said: "If we put the number of automobiles in this country at 500 it will probably be an exaggeration." The same writer, however, estimated the number of makers actually at work or organizing at "somewhere around 100," many of them displaying such a degree of activity "that even within a single year this country may overhaul Europe," where there are now stated to be well over 7000 owners of automobiles. Of these, no fewer than 5600 are in France. It is not too early, however, for the workers in the tire field to busy themselves in the effort to bring out more satisfactory models of tires than have yet appeared.

WHATEVER THE FUTURE MAY DEVELOP, it is impossible to foresee that we can become independent of rubber; nor is there a single indication of a level of prices which, in comparison with those now ruling, can be considered low. But there is reason to hope for the gradual extension of more intelligent supervision of the production of rubber, resulting in the bringing of a better prepared article to market, which alone would be a distinct gain. As for the cultivation of rubber, while few

practical results can be reported as yet, progress has been made. Now and then reports come of another plantation which has begun to yield rubber, and it appears that the exports from Mexico in the last fiscal year were three times as large as in any recent previous year—the increase coming probably from cultivated trees. Before nature's supply of rubber disappears entirely, if it ever does, it is not improbable that enough rubber plantations will be in existence to take its place.

A COMBINE IN COTTON DUCK.

THE cotton duck consolidation, which is one of the most important industrial consolidations of the South, has been completed, the fourteen mills acquired by the Continental Trust Co., of Baltimore, Md., syndicate managers, having been transferred to the Mt. Vernon-Woodberry Cotton Duck Co., which have been incorporated under the laws of Delaware. The total capitalization of the new company is \$23,500,000. The mills consolidated manufacture over 90 per cent. of all the cotton duck manufactured in the United States. S. Davies Warfield, president of the Continental Trust Co., who conducted the negotiations, and who was mainly instrumental in bringing about the consolidation, when asked as to the policy of the new company, stated that there was no disposition on the part of the mill owners to make an advance in the price of cotton duck. The saving gained from various sources by uniting these interests, he said, was satisfactory, and it would, therefore, be the policy of the company to give the consumer all benefits possible through consolidation.

The head of an important mechanical rubber company, however, informs *THE INDIA RUBBER WORLD* that cotton duck has been advanced recently about two cents per yard. Moreover, his company had been informed that no renewal would be allowed of their annual contract for duck, which expires within the present month. This would imply that duck is likely to advance still more before there is a decline.

The new company have elected as president Richard Cromwell, president of the Mt. Vernon Co., of Baltimore. S. Davies Warfield is chairman of the board of directors.

THE FRUIT OF THE CHICLE TREE.

THE tree yielding what is known in Mexico as "gum chicle"—the base of most of the chewing gums manufactured in the United States, is valued in some countries as a fruit bearer. It is known botanically as the *Achras sapota*. It is described thus in Circular No. 15 (June, 1899) of the royal botanic gardens of Ceylon: "A small symmetrical tree with dark green shining leaves, native of tropical America. Fruit globular, about the size of a plant, with dark brown tender rind. When quite ripe it is considered one of the most luscious of tropical fruits, the pulp being sweet and refreshing, and somewhat of the consistency of a pear. In India it is often sold under the name of mangoesteem. Season, November to February. Thrives in the low country and up to 1000 feet, in deep and well drained soil. Propagated by seed and layering." Nursery plants sell at 25 cents in Ceylon. This fruit is known also as the sapodilla plum and naseberry.

THE United States consul at Pará—Mr. K. K. Kenneday—has informed his government that the Pará legislature has passed a bill appropriating \$50,000, to which the authorities at Rio will add \$200,000, as a subsidy to a reliable company which will establish a new line of steamships to ply between New York, Rio and Pará.

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NOTE ON THE "CAUCHO" OF THE AMAZON DISTRICT.

By Dr. J. Huber,

Curator of the Pará Museum.

TOWARD the end of last year (1898) I had the opportunity, together with my compatriot, Dr. Marmies, to become familiar with the Caucho tree on the Ucayali.

This has, however, become rather scarce on this river, and isolated rubber trees only are found a considerable distance from the river, surrounded by ancient forests in which lie the sources of many of the larger or smaller tributaries of the Ucayali, and which are situated above the flood regions of that river. Unfortunately, at the time of our visit the trees had neither buds nor fruit, so that I could collect only leafy twigs and branches. From these, however, it was ascertained that the Caucho is none other than the *Castilloa elastica*. I claimed the existence of the *Castilloa* both in the west of Ucayali, between Sarayacu and the Rio Huallaga, and in the east, in Cerro de Cauchahuaya.

It appears that the supply from the Ucayali, and from the Javary, from which until 1896 the greater portion of the Caucho gathered had come, will soon be exhausted. At present Caucho is still to be obtained from the tributaries of the Ucayali from the upper Japichi, from the Capaua, etc. Without doubt, however, the largest quantities are obtained from the upper Juruá and Purús, whither the majority of *caucheros* from the Ucayali and the Javary flock. During our stay on the Ucayali there were, according to the most trustworthy information, at least 3000 Peruvian *caucheros* in the source region of the Juruá engaged in the Caucho traffic, of whom 600 to 800 brought their product over the divide (hardly 300 feet high) to the Ucayali and to Iquitos, while the others took their Caucho directly down stream on the Juruá. A greater portion of the Caucho is at present carried by the boats of the domestic mercantile houses of Juruá and Purús.

To me there was no question that the Caucho tree was the same as on the Ucayali, as it was also on the northern tributaries of the upper Amazon, on the Tiger, Haya, Nauay, Napo, and Iça, where throughout Peruvian *caucheros* work. Now, however, in the last few years, Caucho has been discovered in large quantities on nearly all the exclusively Brazilian tributaries of the Amazon, as the Trombetas, Tapajós, Xingú, and Tocantins. But as Brazilians almost solely work on these rivers, it was a matter of doubt to me whether they indicated by the name Caucho the same tree as did the Peruvians.

Thanks to the exertions of my colleague, the well known Italian botanist, Dr. Buscalioni, who has just returned from a journey of exploration on the Tocantins, this question can now be regarded as settled. The specimens brought home by this explorer prove to a certainty that the Caucho of the Tocantins is identical with the Caucho of Peru. This permits the conclusion that the *Castilloa elastica* is to be found not only in cisandine Peru, but over the whole region of the Amazon. That this surprising fact—which is as important for the economy of the north Brazilian states as for the geography of plants—was not known before, is due to two circumstances. The Caucho is very similar in outward appearance to other trees of the virgin forests, and it is nearly always to be found at a distance from the great navigable rivers, in the higher and inaccessible regions of the woods.

The region of the Amazon has not only its varieties of *Hevea* in the parts overflowed by the rivers but besides that, in greater altitudes, its *Castilloa*. The produce of this latter is at present,

owing to its poor treatment, of inferior value, but properly treated it would be capable of great improvement. It is very apparent that there need be no fear that the production of Caucho will be reduced.

The reports of exportation speak to the same effect. According to statistics published by Brazilian exporters for the last three years, the entire exportation of Caucho from the region of the Amazon stands as follows:

	1896.	1897.	1898.
Pounds...	3,908,676	4,561,207	4,321,783

while in the first half of the year 1899, the exportation amounted to 4,435,844 pounds which would amount for the whole year to a great increase over the past year.

Pará, Brazil, September 6, 1899.

"CASTILLOA ELASTICA" ON THE LOWER AMAZON.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Dr. Luiz Buscalioni, a botanist of repute connected with the University of Rome, has completed lately a lengthy expedition in the regions of Cametá and Mocajuba, on the river Tocantins, and also on the Juruá, Purús, and other affluents of the upper Amazon. One result has been the complete identification, after thorough investigation, of the tree producing the grade of rubber known commercially as Caucho. He has proved that the Caucho trees recently discovered to exist in such great numbers in the state of Pará are identical with those long known in Peru, which fact in itself is of great importance, owing to the great part which the newly discovered trees are likely to play in the life of the inhabitants of the Tocantins country.

Moreover, this tree is none other than the celebrated "ulé" of Mexico and Central Mexico, known to botanists as *Castilloa elastica* (Cervantes). This makes of all the more importance the fact of the dissemination of the species throughout all the immense Amazon region, from its most remote Peruvian affluents down to the Tocantins. This discovery, according to Dr. J. Huber, of the Pará Museum, will prove not only of great scientific interest, but also of great commercial value. By experiments made in other countries—notably at the botanic gardens in Trinidad—it has been demonstrated that, by the latest methods of coagulation, rubber can be obtained from the *Castilloa elastica* of a quality much superior to that now obtained, under the name of Caucho, by the primitive means still pursued on the upper Amazon.

Another discovery of importance made by Dr. Buscalioni was that of the microbe of malarial fever, a knowledge of which may be expected in future to greatly facilitate the treatment of this scourge in the Amazonian rubber regions.

This learned scientist was warmly received by the governor of Pará on his return from the interior. He has contributed a large number of duplicates from his collections to the herbarium of the Pará Museum.

GRAO PARÁ.

Pará, Brazil, September 4, 1899.

It was announced one day recently in Athol, Mass., that Frank M. Potter, of Boston, had been there with a view to establishing a rubber factory. "The citizens talked of nothing else during the night," says a local newspaper. Besides, they were all in favor of "sticking pins in the town officials if it was necessary to awaken them to a realization of the fact that Athol wants all the new industries that it can possibly get."

THE JOBBING TRADE IN RUBBER GOODS.

ENTERPRISING RUBBER HOUSES IN OMAHA.

THE rubber goods business of Z. T. Lindsey, who has the only exclusively rubber house in Omaha, is probably larger than that of any other house west of Chicago. He sells rubber boots and shoes—Candee, Meyer, and Woonsocket for firsts; New Jersey, Federal, and Rhode Island for seconds; Colonials for thirds; and Champion and Defender brands in tennis goods—felt boots, combinations, canvas and leather leggings, overgaiters, German socks, mackintoshes, and rubber and oil clothing. His warehouse, office, and salesroom are at Nos. 1109-1111 Harvey street, filling four stories and basement, without additional storage room elsewhere. Sales are made from within fifty miles of the Mississippi river to the Pacific coast, and from Minnesota to Oklahoma and Indian Territory. The "Chief" brand of mackintoshes is owned by this house. The business of this house this year up to September 1 showed a marked increase over last year. Mr. Lindsey's rubber business in a wholesale way was started at Council Bluffs, Iowa, in connection with a large retail shoe store which he owned there, in 1882 or 1883. Later he separated the retail and wholesale business, erecting a building for the wholesale rubber trade. After closing out the retail shoe business, Mr. Lindsey removed his wholesale rubber headquarters to Omaha in 1886. Mr. Lindsey was born in Cedar county, Iowa, in 1847. In Omaha, as in his native state, he has been an active man of affairs. He was an important factor in the success of the Trans-Mississippi and International Exposition, held at Omaha last year. The stockholders never expected to get back a dollar, but they have received already 90 cents on the dollar and another small dividend is to be distributed.

The firm of E. H. Sprague & Co. was started April 1, 1897, succeeding to the business of E. G. Stearns & Co.'s Omaha house. Their business has increased steadily, and that for the coming year is expected to break their former records. They carry a very large stock, handling the American, Pará, Woonsocket, and Rhode Island brands in footwear, and the American Rubber Co.'s mackintoshes and rubber clothing. They also sell slickers, leggings, German boots, felt boots, and combinations. Their salesmen travel in western Iowa, northwestern Missouri, and several states and territories west of the Missouri river. This is a progressive house, occupying a very large building for their warehouse and office.

The W. V. Morse Co. are in the wholesale boot and shoe business, with a very large department for rubber footwear, felt boots, German socks, leggings, and combinations. They have handled the Wales-Goodyear and Connecticut brands uninterruptedly for thirty years. The business was started in 1869 by W. V. Morse. They have a splendid brick warehouse and office, well located, and their business is increasing. Their sales are largely in first quality goods.

The American Hand Sewed Shoe Co., dealers in leather, footwear, were incorporated under the laws of Rhode Island, June 6, 1894, with \$200,000 capital, by Henry C. Wilson, Brooklyn, N. Y.; Albert T. Austin and Emma J. Austin, Omaha; and William B. McElroy, Clarence H. Guild, and John H. O'Neil, Providence, R. I. Joseph Banigan at one time was the president of the company and the largest holder of the stock. At the time he was president also of the Woonsocket Rubber Co., whose products were sold by the Omaha concern over the territory that is covered by all the boot and shoe houses in that

city. They now handle the boots and shoes made by the Joseph Banigan Rubber Co., in which they do a very large business.

The Williams-Hayward Shoe Co. were incorporated in October, 1892, succeeding the firm of Williams, Van Arnam & Hart, and have done a steadily increasing business ever since, handling a complete line of leather goods, and the Goodyear Glove and Old Colony rubber boots and shoes. Their rubber business for 1898 was $3\frac{1}{2}$ times as large as in 1893. Up to September 1, 1899, it was considerably larger than for 1898. C. S. Hayward is president, H. G. Harte vice-president, J. W. Hayward secretary, and O. B. Williams treasurer. They occupy a large brick building, well located.

F. P. Kirkendall & Co. do the largest wholesale business in leather boots and shoes in Omaha. They succeeded Kirkendall, Jones & Co., and their business has increased from the start, compelling them not long ago to remove to a larger building. In rubber footwear they handle Boston, Bay State, and Old Colony goods.

The Omaha Tent and Rubber Co. do quite a large business in a retail way in rubber goods—principally garden hose, cotton rubber lined hose, rubber sheeting, mackintoshes, rubber clothing, and druggists' sundries. They manufacture and job tents, wagon covers, awnings, and leggings from specially woven fabrics, waterproofed without the use of rubber. The company were incorporated, at the beginning of 1898, with \$25,000 capital. A. H. Rawitzer is the manager.

The leading retail houses in Omaha handling rubber boots and shoes, as exclusive shoe houses, are T. P. Cartwright & Co., the Drexel Shoe Co., T. P. Norris, A. W. Bowman, C. J. Carlson, the Howe Shoe Co., and the Regent Shoe Co. The leading houses handling rubbers in department, dry goods, and clothing stores, are the Boston Store, Nebraska Clothing Co., the Kelley-Stiger Co., the People's Store, Hayden Brothers, and the Continental Clothing Co. Among them are handled all the brands known in the trade, and some "orphans."

As to the quality of goods in demand in this territory, Mr. Z. T. Lindsey says: "Our experience is that of all other houses selling rubber boots and shoes here, namely: that the better grade of goods is more in demand this season than for many years. We believe the reason for this is that times are more prosperous, and that the tendency of the people is to wear a better class of goods." One other firm in Omaha, however, report: "We regret much to note that there seems to be, especially this year, a tendency to buy second grade goods. We presume, however, it is attributable, to quite an extent, to the advance in price of rubber goods."

RUBBER TRADE IN THE NORTHWEST.

THE W. S. Nott Co. (Minneapolis, Minn.) write to THE INDIA RUBBER WORLD: "The general rubber business in the northwest so far this year has been very good, indeed. The demands from the agricultural interest for belting, packing, and hose have been heavy; besides there has been considerable building of small grain elevators, flour mills, and the like. The merchants and farmers of Minnesota and the Dakotas are in splendid condition financially; in fact, we do not think they have ever before been in as good condition as they are at the present time. Threshing in southern Minnesota and South Dakota is pretty well done; in northern Minnesota and North Dakota they are just commencing [September 6], and every threshing

rig will be in full operation in ten days. The crop has been damaged more or less by the hail, rain, and wind storms, but this is to a great extent in small spots, comparatively speaking, and on account of the large acreage the aggregate yield will be quite up to what it has been in past years. Money is plentiful, with rates quite low for this section of the country. The prospects for a good business in general rubber goods in the north-west this fall and next spring were never brighter, with every probability of plenty of goods to supply the demands and unquestionably sharp competition."—The Nott company have been obliged lately to increase their capacity. They retain the building which they have occupied for the past nine or ten years—Nos. 200-206 First avenue—which is 95 x 105 feet, with four floors and a basement. They have also leased an adjoining building, which gives them a total floor space of about 67,000 square feet. They have gone quite extensively into additional lines, such as prepared roofing, asbestos pipe and boiler covering, asbestos cements, mineral wool, hair felt, etc., with the result of becoming somewhat crowded for room. The firm are manufacturers of leather belting and north-western agents for the New York Belting and Packing Co., Limited, the Eureka Fire Hose Co., and the Gandy Belting Co. W. S. Nott is president, F. H. George vice president and manager, E. M. Goldsborough treasurer, and W. T. Atwater secretary.

MR. HOWLETT'S NEW SYRACUSE STORE.

FRANK C. HOWLETT, the rubber jobber of Syracuse, N. Y., has purchased the property at Nos. 212-214 South Clinton street, for about \$50,000. He is now spending about \$10,000 on this building, which has a frontage of 44 feet and a depth of 132 feet. It is four stories high as it stands, and is on brick. Mr. Howlett is remodelling the building and adding a story. The front will be taken out and one of an ornamental nature substituted, and new elevators will be put in. It will then be one of the finest jobbing houses in the country, and will enable Mr. Howlett to conduct his entire business in Syracuse under one roof, thus doing away with the annoyance of having two stores in one town. Mr. Howlett is just now moving his Washington street business into the new store, and later will move the Fayette street business. On May 1 Mr. Howlett moved his Rochester store into the building No. 55 East Main street. This was necessary because, on account of the increase in business, he had outgrown the capacity of the former store. The business there is conducted under the name of Howlett Brothers, to distinguish it from the Howlett stores at Syracuse and Buffalo.

THE RUBBER TRADE IN THE SOUTH.

MR. GEORGE W. BOWLEY, who has been selling mechanical rubber goods in the southeastern states for a number of years, with Atlanta as the base of operations for the most part, informs THE INDIA RUBBER WORLD that the volume of trade in his line has increased steadily—more than keeping pace with the growth in population. Rubber belting is in demand for saw mills and for connecting cotton gins with the power, though the shorter belts used on the gins are of leather. Rubber belting is little used in cotton mills, hose being the only form of rubber sold to such establishments. The sale of garden hose increases with the number of towns owning waterworks. General business conditions in his territory have improved very much in recent years, and trade has been particularly active of late in the cotton belt on account of the advance in the price of cotton. There is a constant change in regard to the quality of rubber goods demanded by the southern trade. At times he has seen a general tend-

ency to buy the better grades of belting and the like, after which the call is mostly for cheap goods. Large users soon learn by experience that the best is the cheapest, but the buyer of a belt for a cotton gin, for example, on seeing goods at different prices and all looking alike, is disposed to select that which costs the least. Dealers often feel like protesting against this, but they say that their margin of profit is too small for them to take the time to argue with every customer over the advantages of buying a good grade, and hence content themselves with keeping in stock what customers call for. During ten years Atlanta has gained greatly in importance as a distributing center for rubber and all other lines.

SUCCESS OF A NEW HOUSE IN ST. LOUIS.

THE Roberts, Johnson & Rand Shoe Co. (St. Louis) dates from January, 1898, when John C. Roberts sold his interest in the Hamilton-Brown Shoe Co., of the same city, with which he had been connected for twenty years, and associated himself with Messrs. Johnson and Rand, formerly of the Johnson, Carruthers & Rand Co., of Memphis, Tenn. The new company was formed with \$250,000 capital. By November 1 they had sold \$700,000 worth of shoes. They then leased and have since moved into a new eight story building at Washington and Tenth streets—one of the finest stores in St. Louis. Their capital has been increased to \$350,000, and they have installed machinery which will enable them to manufacture 500 pairs of men's Good-year shoes per day. The company have lately organized a rubber shoe department on a large scale and placed it in charge of George R. Harsh, who also comes from Memphis, and is an experienced handler of rubbers. Complete lines will be carried of Boston, Bay State, and Colonial goods.

ALLEGED DANGER IN RUBBER NIPPLES.

THE health commissioner of Buffalo, N. Y., Ernest Wende, M.D., continues to oppose, on sanitary grounds, the use of the long tube nursing bottle. Two or three years ago he secured the adoption by the board of aldermen of an ordinance prohibiting the use of such bottles for reasons which he contributed to THE INDIA RUBBER WORLD, April 10, 1897. Dr. Wende has since continued his crusade, insisting that since the sale of the long tube nursing bottle has been prohibited in Buffalo, the mortality in that city from cholera infantum has been 50 per cent. less than before. In a recent number of the *Journal of the American Medical Association* [Chicago, August 5, 1899] Dr. Wende writes in alarmist fashion of "The Death Dealing Long Tube Nursing Bottle," showing in detail its evils as they appear to him. He finds that even the short rubber nipple soon becomes infested with bacteria, due to the lodgment of stale milk in the cavities of the rubber, and particularly at the seams in the nipple. When the microbes have penetrated the surface, he says, they are resistant to boiling; so a want now exists for a new material which will better answer the purpose. *The New York Medical Journal* favors Dr. Wende's contention and says: "What is wanted now is a nipple combining something of the elasticity of soft rubber with the germproof quality of glass. Celluloid has been suggested as a material that might be made to fulfill these requirements, and we see no reason why it should not if properly treated." No doubt the manufacturers would see some difficulty in forming a practical nipple of celluloid. *The Druggists Circular* (New York) appears to size up the situation more intelligently. "The only thing left at present," it says, "for those who feel unable to dispense with the nipple, is to cleanse it as thoroughly as possible, boil it often, and frequently replace it with a new one."

THE RUBBER PLANTING SITUATION.

A ROSY VIEW FROM TEXAS.

TO THE EDITOR OF THE INDIA RUBBER WORLD: For four years I having been looking into Mexican investments in general, and the rubber question in particular. I have had occasion to make various trips into the interior, especially on the isthmus of Tehuantepec, investigating the country, the people, and the climate. My trip last month in Chiapas and Vera Cruz took me to many plantations, where I found a high grade of population directing the various enterprises. It was no unusual occurrence to find Yale and Harvard graduates wrestling with agricultural problems, while in the evenings, after the ten hour day of work, one might hear references to translations of Homer, or find them reading the new magazines and reviews, while one was studying the freight rate on a Steinway piano. It suggested the remark of the Frenchman: "Give me the luxuries of life and I will do without the necessities." But American like, they have got ahead of the Frenchman by getting both necessities and luxuries.

An enterprising American is just offering to put up a first class hotel at Coatzacoalcas, to accommodate the plantation traffic at the gulf outlet. All this would suggest that investments on the isthmus and in the rubber lands are encouraging and profitable. A Chicago man said to me yesterday: "I have studied the *pro* and *con* of the rubber question from factory and on the scene, for some time, and my decision is, all money goes into it." He is one of many of like opinion.

Please send my paper here for six months, after which time my address will change. I have come to be a "grower" and find special interest in your periodical.

F. M. DAVIS.

No. 407 East Second Street, Austin, Texas, August 31, 1899.

ANOTHER TEXAN PLANTS RUBBER.

F. E. JONES, a wholesale commission merchant of Houston, Texas, who is a subscriber to THE INDIA RUBBER WORLD, wrote recently that he had planted 100 acres in rubber on the isthmus of Tehuantepec last year, and was having 50 acres planted this year. His location is near those of the Mexican Gulf Agricultural Co., at Dos Rios, and the Mexican Tropical Planters' Co., at Suchil, both of which companies, he reports, are planting a good deal of rubber.

THESE CALIFORNIANS CALLED A HALT.

A LETTER to THE INDIA RUBBER WORLD from Mr. Joseph B. Toplitz, of San Francisco, Cal., regarding the dissolution of the recently incorporated Tapachula Rubber Plantation Co., states that, certain representations having been made to himself and his associates about a property in Mexico suited for rubber planting, they organized a company and sent one of their number to report upon the property before concluding any contracts. Their representative—Mr. A. J. Cartwright, who owns property in Hawaii and a model fruit farm in California—found that there were no houses or fences or cultivated lands on the Mexican "estate," as had been represented, while the number of rubber trees was nothing in comparison with the assertions made. Moreover, the land was a swamp, and not habitable by white men. Hence the company dissolved. Mr. Cartwright found another tract available, however, with which he was favorably impressed as offering a chance for rubber cultivation, but the capital necessary was larger than he and his associates were prepared to raise. Mr. Toplitz is emphatic in advising that no money be invested in rubber plantations without full investigation in advance.

PENNSYLVANIANS INVESTING.

A RECENT report was that a party of business men and lawyers of Williamsport, Pa., had bought a large tract of land in southern Mexico for the cultivation of rubber and other tropical products. A letter to THE INDIA RUBBER WORLD from Mr. Riley W. Allen, who is engaged in the insurance business in Williamsport in an important way, states that he and his associates are only interested as shareholders in the Mexican Tropical Planters' Co. In company with L. L. Stearns, of the same town, Mr. Allen visited Mexico in February last, becoming enthusiastic over what they saw in the way of beginnings of rubber planting. Edmund G. Koch, of the Koch Brewing Co. (Williamsport), is also interested. Charles Scheffel, of the same place, was planning recently to go to Coatzacoalcas to take a position in the planting company.

CATALOGUE OF RUBBER SEEDS.

THE catalogue of tropical seeds and plants issued by J. P. William & Brothers (Henaratgoda, Ceylon) for 1899-1900 is the largest and most complete which they have yet sent out. The additional matter is particularly full in regard to India-rubber plants and seeds. They are now prepared to supply customers with the following varieties:

- Hevea Brasiliensis* (Pará rubber).
- Manihot Glaziovii* (Ceará or maniçoba rubber).
- Hancornia speciosa* (Mangabeira rubber).
- Castilloa elastica* (Nicaragua or Panama rubber).
- Landolphia florida* (African rubber).
- Landolphia Kirkii* (East African rubber).
- Ficus elastica* (Assam and Java rubber).
- Willughbeia edulis*
- Willughbeia Zeylanica* } (East India rubbers).
- Cryptostegia grandiflora* (Palay rubber).
- Urceola esculenta* (Burma or Borneo rubber).
- Dichopsis gutta* (Gutta-percha).
- Paysna Leerii* (Gutta-sundie).

Recent "New Product Circulars" issued by this firm are: No. 30 Pará rubber; No. 31—Ceará rubber; No. 32—Central American rubber.

NOTES.

THE cultivation of maniçoba or Ceará rubber is reported to have been commenced on an important scale in the state of Sergipe, in southern Brazil, and with indications of success. The press is advising the planters to try also the mangabeira tree, which adapts itself to the most sterile soil and yields rubber of good quality.

—A few hundred pounds of rubber of the Pará variety, collected from cultivated trees in the government plantation at Kuala Kangsar, Perak, Straits Settlements, and sent to London, realized 3s. 1d. per pound.

—Four varieties of rubber trees are being cultivated experimentally on the island of Pemba, near Zanzibar, but without satisfactory results thus far. A species of *Landolphia* is indigenous, but the vines are too widely scattered to encourage the gathering of rubber. The director of agriculture advises the planting of more of this species.

—During the greater part of a year past Mr. J. Parkin, M. A., of Trinity College, Cambridge, England, has been at work at the royal botanic gardens of Ceylon, carrying out chemical and physiological investigations into the processes of tapping rubber trees and coagulating rubber.

ARE THERE RUBBER TREES IN CUBA?

TO THE EDITOR OF THE INDIA RUBBER WORLD—Dear Sir: I am in receipt of your letter inquiring whether I have any information bearing upon the existence of the rubber tree (*Castilloa elastica*) in Cuba. In reply I would state that one author only, namely, Trecul, (in Ann. Sc. Ser. 3, viii. 136, t. fig. 142-148) has stated that the tree is a native of Cuba, and others have repeated this, simply copying the erroneous statement made by Trecul.

The most complete and reliable account of *Castilloa elastica*, from the scientific point of view, with colored drawings, is given by the illustrious botanist, Sir Joseph Hooker, G. C. S. I., in the "Transactions of the Linnean Society of London, Second Series—Botany," Volume II, Part 9 (1886), page 211.

In discussing the habitat or distribution of *Castilloa elastica* he states: "Trecul gives Cuba as a native country for *Castilloa elastica*, on Ramon de la Sagra's authority, but a reference to the latter author's 'Flora Cubensis' shows that it is known in that island only in the botanic gardens of Havana."

There is no proof that anyone has discovered *Castilloa elastica* really wild in any part of Cuba. Of course the tree is being cultivated in gardens and to some extent in plantations in various parts of the tropics. It is in fruit at the present time at the botanic gardens at Dominica, St. Lucia, St. Vincent, Grenada, and Trinidad, but the original plants have all been introduced to the West Indies. I am, very sincerely yours,

D. MORRIS,

Commissioner Imperial Department of Agriculture for the West Indies.
Barbados, August 21, 1899.

AN OPINION FROM TRINIDAD.

Botanical Department, Trinidad,
July 13, 1899.

I have no information as to *Castilloa* in Cuba. I see no reason why *Castilloa* may not be native in Cuba, but it certainly is not indigenous to Jamaica, and I should hardly think it likely to be in Cuba. If your correspondent will send me specimens of the leaf I will soon decide the matter. It is not safe to make assertions without specimens; sometimes not even then. Yours faithfully,

J. H. HART.

[Superintendent.]

HISTORY OF ONE RUBBER PLANTATION.

IN his recent valuable work entitled "Commercial Cuba," Mr. W. J. Clark, manager of the electric railway department of the General Electric Co., referred to an attempt made to cultivate rubber in the province of Santiago, a few years ago. He wrote: "The results there obtained were most encouraging, so far as the growth of the trees were concerned, and the quantity of gum obtained; but, following the usual practice, the infant industry was crushed out by excessive taxation, which necessitated the abandonment of the plantations. The gentleman who had charge of this experiment has personally told the writer that he believed that rubber trees in Cuba could be more profitably cultivated than in South America. It should be remembered that the 'maboa' and other *Ficus* trees, similar in their nature to the rubber tree, exist in Cuba, the one named being aid to furnish a considerable amount of gum."

In answer to a letter of inquiry Mr. Clark writes to THE INDIA RUBBER WORLD: "I have understood from various sources that a number of experiments have been made during the past toward the introduction of the rubber tree in Cuba. The one particular experiment, however, on which I have direct knowledge was conducted by Mr. Ramsden, son of the late Fred W. Ramsden, British consul at Santiago de Cuba. As the story

was told to me, Mr. Ramsden, through his father's consular connection, imported a few trees and they flourished so well that he started an extensive plantation, but the Spanish authorities, following their usual course, raised his taxes so enormously on account of the new industry, that he was compelled to uproot the trees and let his plantation stand as uncultivated land."

RUBBER TERRITORY IN DISPUTE.

THE long standing boundary dispute between Brazil and Bolivia, noted more than once in the Pará correspondence of THE INDIA RUBBER WORLD, seemed at one time lately to have been settled. The United States consul at Pará, Mr. K. K. Kenneday, reported that the Brazilian government had acceded to the demands of Bolivia, which country had established a custom house at the disputed point. He wrote: "The strip of land contains many thousand valuable rubber fields, and the change will be keenly felt in the revenue department at Manáos." This district embraces an important portion of the basin of the river Aquiry, or Acre, one of the large tributaries of the Purus, one of the greatest rubber producing rivers. Such a settlement of this dispute not only would have added to Bolivia's supply of rubber, but would have afforded that country an outlet via the Amazon without the necessity of portage around the falls of the Madeira.

More recently it was reported that the inhabitants of the territory in dispute had declared their independence, under the style of the Republic of Acre. This has not been confirmed, however. *Le Brésil* says: "The new republic, if republic there be, is for the most part populated by Brazilians. There is, therefore, every reason to believe that it will incorporate itself with Brazil, and that in this simple manner the population of the contested territory will settle for itself a question which diplomacy has up to now been incompetent to adjust."

The first step of the Bolivian government after the supposed settlement of the dispute some time ago was to establish a custom house at Port Alonso, within the Bolivian boundary. The importance of this district in the production of rubber is indicated by the following figures, recording the exports of rubber through Port Alonso during the first four months of the current year:

MONTHS.		Fine.	Coarse.	Total.
January.....	kilos	319,755	39,910	359,665
February.....		638,017	96,487	734,504
March.....		152,105	21,123	173,228
April.....		74,665	10,951	85,616
Total, kilos.....		1,184,542	168,471	1,353,013
Total, pounds.....		2,605,992	370,636	2,976,628

FROM A PLEASED SUBSCRIBER.

TO THE INDIA RUBBER PUBLISHING CO.—Dear Sirs: The last number of THE WORLD was extremely interesting to me, and I think I read it through from cover to cover, advertisements and all. I congratulate you on your paper.

Providence, R. I., September 8, 1899.

LIEUTENANT GLARRIE, of the Belgian army, who has returned to Antwerp from service in the Congo country, says that agents coming from the upper Congo report the existence of vast unexplored rubber districts, sufficient to provide the whole of Europe with rubber for a long time to come.

THE LITERATURE OF INDIA-RUBBER.

CRUDE RUBBER AND COMPOUNDING INGREDIENTS. A TEXTBOOK of Rubber Manufacture. By Henry C. Pearson, Editor of THE INDIA RUBBER WORLD. New York and London: The India Rubber Publishing Co. 1899. [Cloth. Large 8vo. 261 pp. Price, \$10.]

THIS book is the development of what was in its first form a portfolio of facts arranged by the author for his personal use and convenience, in his work originally as a rubber manufacturer and later as the editor of a rubber trade journal. The great number of inquiries which reached him from factory superintendents and others, for which this portfolio supplied answers, first suggested the idea of putting the information in book form, rendering it available for all who cared to buy it. In getting up the book the idea has been to make it no larger than was necessary, in view of the amount of information to be presented. Instead of any space being wasted in the description of any material, the work of the writer is a model of conciseness throughout, rendering it more convenient for use as a book of ready reference. This is not a book of compounds, but is confined mainly to a description of the various grades of crude rubber, showing their different characteristics and the classes of products for which they are adapted, and of the great number and variety of the ingredients used in all lines of rubber compounding, with the results which may be attained by the use of each.

The author's preface points out that such a book will likely prove of more value to the competent superintendent than a book of compounds. "When a manufacturer buys a set of compounds—and most of them are purchasable—he invariably acquires them not so much for use as for suggestion and comparison. The descriptions, therefore," of these various ingredients, "scores with which he may be unfamiliar, will be so suggestive to the practical man that new sets of compounds will be secured, each partaking of the individuality of the expert, and bearing the impress of the line of work done in the factory to which he is attached, and wholly free from the taint of imitation or counterfeiting, which is the bane of the purchased secret. It is felt that another point of superiority over the mere compound book will be found in the fact that no private formulas are given, which might wound the feelings of the more conservative manufacturers."

Not only are the various compounding ingredients—fillers, vulcanizing materials, coloring matters, and the like—arranged under a convenient scheme of classification, but access to their descriptions is facilitated by a very full alphabetical index, filling twelve pages in small type, which is a particularly useful feature of the book. Much stress is laid upon the possible value to the rubber industry of many gums hitherto little known, and which are still to be had at a low price, either as substitutes for rubber or for admixture with it. Likewise the value of rubber substitutes, a large number of which are described, with the peculiarities of each, is commended to the attention of the superintendent who is of an investigating turn of mind. There is thus on every page a suggestion of possible value to the practical man. Much of this information has not appeared in print before, while that which is not new has been so widely scattered in scientific and trade publications as to render it practically impossible for the men most in need of it to find and make use of it.

The concluding chapter relates to Gutta-percha, and is a comprehensive yet concise treatise on this substance and its properties and industrial uses.

H. H.

GUMMI, GUTTA-PERCHA, UND BALATA. IHR URSPRUNG UND Vorkommen, Ihre Gewinnung, Verarbeitung, und Verwendung. Von Franz Clouth, inhaber der Firma Franz Clouth, Rheinische Gummiwaren-Fabrik in Köln-Nippes. Mit 45 abbildungen, karten, und graphischen darstellungen. Leipzig: Verlag von Bernh. Friedr. Voigt, 1899. [Paper. 8vo. 232 pp. Price 7.50 marks.]

It has been unusual for rubber manufacturers to take the time to write much in regard to their industry, for which reason Herr Clouth's book deserves all the more attention. Good-year and Hancock each wrote a book on rubber, but in the infancy of the industry, and their works long since ceased to be of practical value. This work, though less extensive than E. Chapel's "*Le Caouchouc et la Gutta-percha*," is more complete in many particulars, besides which it gains in respect of being brought more up to date. Great pains has been taken to include all the rubber species of commercial value, describing their peculiarities, with the aid of illustrations of their botanical characters, account of their geographical distribution, methods of gathering, coagulation, etc. The characteristics of the various sorts of rubber are outlined, with percentages of shrinkage and other points of interest to manufacturers. Then comes a brief outline of the various processes of treatment of rubber, and the details of manufacture in the leading branches. Following the chapters on India-rubber is one on Gutta-percha, and another on Balata. The 45 illustrations relate to the botany of rubber, views of rubber gathering, and rubber machinery, together with two maps showing the geographical distribution of India-rubber and Gutta-percha. Full use has been made by Herr Clouth of the leading authorities who have written hitherto, including Dr. Obach's "Cantor lectures" on Gutta-percha. Several of the illustrations are excellent half-tones, one of which is identical with the view of "Tapping a Balata Tree in Dutch Guiana," shown in THE INDIA RUBBER WORLD of August 1, 1899. An excellent service has been done in bringing together in convenient form, for those who read German, so much information regarding these valuable gums and their properties, but the work is not offered as a manual of the rubber manufacture.

ALL ABOUT RUBBER AND GUTTA-PERCHA. THE INDIA-RUBBER Planters' Manual, with the Latest Statistics and Information, More Particularly in regard to Cultivation, and Scientific Experiments in Trinidad and Ceylon. Compiled by J. Ferguson, editor *Ceylon Observer and Tropical Agriculturist*. Third edition—revised and enlarged. Colombo: A. M. & J. Ferguson, 1899. [Cloth. 12mo. pp. 80+cclix. Price, 4.50 rupees.]

INSTEAD of writing a book, Mr. Ferguson, in his capacity as an editor, presents here in their original form a large number of selections, made with great care, from the mass of matter which has appeared in print in relation to the different rubber yielding species and the conditions favorable to their growth, together with the results of such experiments as have been made in their cultivation. Nowhere have such experiments been carried on more thoroughly than in Ceylon, nor with greater promise of success. Naturally this book, having been prepared primarily for the service of planters in the East Indies, is fuller in reference to the species adapted to cultivation in that part of the world and to cultural experiments there. The descriptions given of the several species are of equal value, however, whether it is intended to plant in Asia or in America; likewise the accounts of the habit of each variety are of equal value in whatever part of the world in assisting the intending planter to decide whether or not the conditions natural to it exist in his own locality. The botanical information is full and up to date, and the same may be said of the

statistical portions of the book. The compiler has drawn upon the works of travelers, the forestry reports of various countries, the reports of botanical gardens, and numerous articles published by planters respecting their experience with rubber. As indicating the character of the articles compiled in this book, may be mentioned the following which are credited to THE INDIA RUBBER WORLD:

- The Rubber Situation in Madagascar. [I. R. W., May 10, 1896.]
 The Cultivation of India-rubber in Nicaragua. [I. R. W., December 10, 1896.]
 Gathering Rubber in The French Congo. By Mrs. Martha Nehne. [I. R. W., March 10, 1897.]
 Nyasa Rubber—A New African Sort. [I. R. W., March 10, 1898.]
 Rubber Cultivation in Australia. By A. N. F. [I. R. W., May 1, 1898.]
 Notes on Rubber Cultivation in Mexico. By J. C. Harvey. [I. R. W., October 1, 1898.]
 Maniçoba, the Rubber of Ceará. By Grao Pará. [I. R. W., October 1, 1898.]
 Is the Caucho Trade in Peru Declining? By Fred. J. Hessel. [I. R. W., May 1, 1899.]

Particular reference is made to an article by Francis Child Nichols, on "Some Recent Developments in Rubber Cultivation," published in THE INDIA RUBBER WORLD September 1, 1898, and reproduced in *The Tropical Agriculturist*, and which, Mr. Ferguson says, "attracted too little attention at the time." Referring to its suggestion of extracting caoutchouc profitably from the young stems of rubber yielding trees, Mr. Ferguson is of the opinion that "we have here the elements of a great revolution in rubber cultivation."

Of special interest in this volume is the full text of a recent circular on rubber cultivation published by Mr. John C. Willis, director of the royal botanic gardens, Ceylon, summarizing the situation in that colony up to June, 1899. This includes a report by Mr. J. Parkin, M. A., of Trinity college, Cambridge, England, who had been engaged for more than a year with Mr. Willis, in scientific investigations upon rubber, its origin, flow in different species, composition, coagulation, etc. The conclusions reached by Mr. Parkin, as well as by others quoted in this book, are to the effect that mechanical means of rubber coagulation will yet be reached that will result in producing rubber of more desirable qualities than are now obtainable.

WEST INDIAN BULLETIN. THE JOURNAL OF THE IMPERIAL AGRICULTURAL DEPARTMENT FOR THE WEST INDIES. Barbados: Issued by the Commissioner. Vol. I, No. 1. [8vo. 141 pp.]

THE first number of an occasional publication directed by Daniel Morris, C.M.G., M.A., D.S.C., F.L.S., late assistant director of the Royal Gardens, Kew, who has been sent to the British West Indies to stimulate their agricultural development. This issue is devoted chiefly to the sugar cane interest, but Dr. Morris, who was the author of the recent "Cantor lectures" on India-rubber, may be expected to give careful attention to the possibility of cultivating rubber, supplementing the important work already done at the botanic stations in Jamaica and Trinidad, which now come within the scope of his department.

THE "Cantor Lectures" on Gutta-percha, by the late Dr. Eugene A. F. Obach [see THE INDIA RUBBER WORLD, August 1, 1898], have been translated into Dutch, under the auspices of the colonial museum at Haarlem, and a German edition is now announced as in preparation.

THE full decision in *re* The Palmer Tyre, Limited, *v.* The Pneumatic Tyre Co., Limited, and others, in the English high court of justice—Queen's bench division, which case was heard in May and June last, is published in "Reports of Patent, Design, and Trade Mark Cases." Vol. XVI, No. 22, August 23,

1899, pages 451-496. This was an action against the Dunlop people for alleged infringement of the Palmer tire fabric patents, and the decision [summarized in THE INDIA RUBBER WORLD, August 1] was against the plaintiffs on all the counts.

IN CURRENT PERIODICALS.

THE introduction of the *Kickxia* [Rubber] from Lagos into Kamerun. [Report of an expedition sent by the German colonial industrial committee, under the botanist Schlechter; 40,000 seeds of the Lagos rubber tree were carried into the Cameroons and planted, with promise of good results.] *Der Tropenpflanzer*, Berlin. III-8 (August, 1899). pp. 355-361.

THE Caoutchouc of the Congo. [Character and extent of production of the various districts.] *La Gazette Coloniale*, Brussels. I-4 (July 16, 1899.) pp. 1-3.

THE "Pirahy" Caoutchouc Vine of Madagascar. By Henri Jumelle. [Description of a species hitherto unknown, designated by the author of this note as the *Landolphia Perieri*.] *Comptes Rendus*, Paris. CXXIX-16 (August 7, 1899). pp. 349-351.

Rubber from a *Landolphia* in Madagascar. By Henri Jumelle. [Describing the *L. Perieri*; native "Pirahy."] *Revue des Cultures Coloniales*, Paris. V-35 (August 20, 1899). pp. 104-109.

Rubber Cultivation in Ceylon. [Editorial and communication signed "E. S. G." Reference to 1500 acres now covered by rubber plantations in Ceylon and prediction that the area will be largely increased on account of an approaching revolution, not only in the system of separating caoutchouc from the milk, but also in extracting rubber from the stems of young trees.] *The Tropical Agriculturist*, Colombo. XIX-2 (August, 1899). pp. 91-94.

Caoutchouc or India-rubber; Its Origin, Collection, and Preparation for Market. [Circular No. 15, Royal Botanic Gardens of Ceylon.] Supplement to *The Tropical Agriculturist*, Colombo. XIX-2 (August, 1899). Broadside, equal to 34 pages, 8vo.

THE Oldest Caoutchouc Plantation in the World. By A. H. Erkhout. [Plantation in Java. This matter appeared in THE INDIA RUBBER WORLD, August 1, 1898.] *Revue des Cultures Coloniales*, Paris. V-35 (August 20, 1899.) pp. 120-121.

YQUITOS. By David B. Adamson [British consul. Includes notes on gathering Caucho and Jebe rubber.] *Transactions and Seventh Annual Report of the Council of the Liverpool Geographical Society*. VIII (1898). pp. 39-44.

Rubber Coagulation and Separation. By J. H. Hart. [Reply to R. H. Biffen's article in the *Journal of the Society of Arts*.] *The Tropical Agriculturist*, Colombo. XIX-1 (July, 1899). pp. 42-43.

THE Use of Insulated Cables for Strong and Weak Currents. By G. Zapf. *Elektrotechnische Zeitschrift*, Berlin. XX-32 (August 10, 1899.) pp. 583-586.

THREE Natural Rubber Substitutes. By David Hooper. [Read at the last meeting of the British Pharmaceutical Conference. Refers to elastic gums obtained from plants discovered recently in India.] *The Druggists' Circular*, New York. XLIII-9 (September, 1899). pp. 202-203.

CHOLERA Infantum and the Nursing Bottle. [Criticism of the rubber nipple as a bacteria "breeder."] *The New York Medical Journal*. LXIX-25 (June 24, 1899). p. 891.

THE Death Dealing Long Tube Nursing Bottle. By Ernest Wende, M. D. [Health officer, Buffalo, N. Y.] *Journal of the American Medical Association*, Chicago. August 5, 1899.

RUBBER Gloves in Aseptic Abdominal Surgery. By C. H. Richardson, M. D. *The New York Medical Journal*. LXIX-25 (June 24, 1899). pp. 888-889.

USE of Rubber Splints in Treatment Following Intranasal Operations. By J. Price-Brown. *Annals of Otolaryngology, Rhinology, and Laryngology*, St. Louis. May, 1899.

STUDIES on the Latex of Caoutchouc. By Lindet et Aimé Girard, *Teysmania*, Batavia. X-1 (January, 1899.) pp. 44-45.

ESSAY on the Sale of Caoutchouc from Cultivated *Ficus elastica* and *Castilloa elastica*. By D. Mulder. *Teysmania*, Batavia. X-1 (January, 1899.) pp. 45-47.

A GERMAN VIEW OF RUBBER TRUSTS.

[FROM "DIE GUMMI-ZEITUNG," DRESDEN.]

THE tendency of the present time, to monopolize all industries, is by no means confined to America. It doubtless will soon become more manifest in Germany, on account of the necessity of meeting the enormous accumulations of capital in the trusts on equal terms in the markets of the world. It is not probable that the hopes of the monopolists to maintain the upper hand in the industrial world will ever be realized, but the efforts to form an English rubber trust are an indication of great moment. The secrecy observed in this case is due to the fact that in England such combinations are regarded with less favor than in America; besides, different labor conditions must be taken into consideration there.

The trusts demand a fixed profit under all conditions. The marking down of selling prices, to meet competition, and thus reducing profits, might lead to the collapse of the biggest undertaking, for the dissatisfaction of the stock speculators may prove more dangerous than a strike of the workmen. A trust can be successful only when all the products in its line are manufactured by the interested parties who share the profits. Not only must foreign competition be prevented, but also all independent manufacturing at home, either by means of price cutting, when necessary, or making a "corner" on all the raw materials. It must be made impossible for manufacturers outside of the trust to compete in quality or in prices. But this is not yet the condition in America, where great competition exists outside of the trusts.

Can monopolies, in any event, compete with undertakings managed by individuals? A stock company can here be looked upon only as an individual concern, serving the same purpose as the factory managed by a single owner, the opposite being true of a closed ring of manufacturers having for its object the collective manufacture and distribution of goods, barring all competition and forcing upon the consumer the mandates of the producer. This condition, in the light of all past experience, must be condemned, for the reasons which follow.

The enormous sums of money required to buy up all the interests needed to form a trust in nearly all cases exceed their actual value; the individual owners giving up their interests, not on account of their love for the trust, but for the purpose of making as much as possible out of the transaction. The fundamental capital of a trust, therefore, is naturally disproportionately high. There is of necessity from the first day not only an army of high salaried officials to be provided for, but each day requires its dividend, for otherwise the valuation of the trust is lost. But how can such a gigantic undertaking, controlling only a part of the producing capacity, paying high interest, salaries, and dividends, manufacture as cheaply as an establishment with a normal capital which can be turned over several times during the year? The new American rubber trust with a capital of \$18,000,000 has first of all to take into account the interest on that amount, before a profit can be talked of, not counting the nearly double cost of management. It is therefore utterly impossible for the American trust to manufacture cheaper than other manufacturers, all assertions in this regard here in Germany to the contrary notwithstanding.

The only point which apparently speaks in favor of a trust bears upon the economy of manufacture. With the advances in improved machinery and the continual building of special machines it is difficult at times for the individual owner to keep his plant up to the top notch. A trust can specialize its product in such a manner that each new machine is used only for those articles for which it is especially adapted, thus resulting in the

highest degree of economical production. The quality of an article is thus in no wise made poorer; on the contrary, a better quality may be produced by confining the work of the machine and its operator to a single line. But every large factory today is in a condition to work on the same system. The assertion is general that specializing reduces the cost of manufacture. But that is false, if the wear and tear of machinery is accurately taken into account. A sinking fund of 10 per cent. is not sufficient for special machines; 25 to 33½ per cent. should be written off.

This is by no means all that can be said against the monopolization of rubber goods production, not mentioning the sociological reasons which have been mentioned so often that it is unnecessary to consider them here. One question is to what effect the banding together of the American rubber manufacturers can have on the German market and the German industry. Now, we think, none whatever. In no wise will this fractional trust be enabled to place an obstacle in the path of German or European manufacturers; it is too insignificant for that, especially so as the German rubber industry is superior in many ways to that of America and England. The only field in which the American trust can affect the German industry is in the American market itself, where no doubt all kinds of manipulations will be resorted to. But there too the German export branch will hold its place, if it does not gain a better footing.

In viewing the new American trust it must not be overlooked that already a close connection exists between the United States Rubber Co. (the shoe monopoly) and the Rubber Goods Manufacturing Co., the same person dominating the respective boards of directors. The American shoe trust no doubt will soon be merged with the rubber goods trust, which will bring the monopolists about half way to their objective point. But in spite of this reinforcement the weak points of the whole system remain, having for its object not the operation of the industry, but in financial speculations. It is hardly possible that the trust, at any time, will have any sort of influence on the general market, and the capability of our numerous German factories, under individual management, will always overtop it. This must remain our impression unless these gentlemen, the trust mongers, should prove to be so philanthropical that their object is to advance the rubber industry, without first considering the filling of their own pockets.

EUROPEAN DEMAND FOR RUBBER SHOES.

THE English *India Rubber Journal* recently devoted a "leader" to a report from Turkey that rubber imports (garments and shoes) from England "make no progress in comparison with the German, French, and Austrian competitors." Our contemporary states that the prices paid for such goods generally are higher than is charged for British products. The trouble with the latter is that the manufacturers do not sufficiently study the particular tastes and wants of the foreign buyer. For example, in the case of "goloshes," there is a demand on the continent for a brilliant gloss, or varnish, in comparison with which the shape or fit of the articles seems unimportant. "What they want," says our contemporary, "is a good imitation of a patent leather gloss, and one that will last as long as the shoe itself wears. It must not turn up whitish in color, as many British made shoes do, and it must not be 'speckled.'"

THE exports of Balata from British Guiana from January 1 to June 29 amounted to only 42,129 pounds.

RECENT RUBBER PATENTS.

THE UNITED STATES RECORD.

ISSUED AUGUST 1, 1899.

- N**O. 630,080. Die for Molding Rubber Tubing. John J. Voorhees and Warren W. Ainsworth, Jersey City, N. J.; Ainsworth assignor to Voorhees.
- 630,110. Elastic Fabric. George Riley, Leicester, England, assignor of two-thirds to Nye & Tredick, Philadelphia. Original application filed December 6, 1897, serial No. 660,902; divided and this application filed March 11, 1899. Serial No. 708,642.
- 630,115. Fireproofing and Insulating Compound and Method of Producing Same. Emil Rueff, New York city.
- 630,204. Soft Tread Horseshoe. Enoch B. Evans, Washington, D. C.
- 630,222. Hand Stamp. John A. Henry, Philadelphia, assignor of one-half to William L. Teter, same place.

ISSUED AUGUST 8, 1899.

- 630,468. Lawn Sprinkler. William Quayle, Denver, Colo.
- 630,517. Composition for Printers' Inking Rollers. Edward L. Perry, Paterson, N. J.
- 630,540. Apparatus for Finishing Rubber Cloth. Frederick A. Hodgman, Tuckahoe, N. Y.
- 630,638. Syringe Case. Albert H. Tatum, New York city, assignor to Whitall, Tatum & Co., same place.
- 630,650. Vulcanizer. Seth A. Brown, Buffalo, N. Y., assignor to the Buffalo Dental Manufacturing Co.
- 630,726. Heel Rubber. John H. Morrow, Chicago.
- 630,783. Knitted Fabric for Hydraulic Hose. George E. Stevens, Laconia, N. H.

ISSUED AUGUST 15, 1899.

- 631,142. Bicycle Tire Tread. Daniel W. Williams, Richmond, Ind.

ISSUED AUGUST 22, 1899.

- 631,279. Hoof Pad. Henry O. Canfield, Bridgeport, Conn.
- 631,283. Rubber Soled Shoe. Wilmer Dunbar, Akron, Ohio, assignor to the Whitman & Barnes Manufacturing Co., same place.
- 631,317. Garden Hose Support. Joseph H. Miller, Oklahoma, Okla., assignor of two-fifths to Franklin Springer, same place.
- 631,599. Pneumatic Tire. John T. Trench, Kenmare, Ireland.
- 631,648. Grip. Rhodes G. Lockwood, Boston, Mass.

ISSUED AUGUST 29, 1899.

- 631,803. Manufacture of Inflatable Tubes. Frank Mallalieu, Providence, R. I., assignor to the Mechanical Fabric Co.
- 631,839. Process of Manufacturing White Lead or Other Pigments by Electrolysis. Herman C. Wolterreck, New York city.
- 631,899. Syringe Nozzle. Edward F. Mellon, McDonald, Pa.
- 632,022. Process for Treating India-rubber, Gutta-percha, etc. Charles Repin, Paris, France.
- 632,069. Resilient Tire for Wheels. Oscar E. Smith, Chicago.
- 632,110. Composition of Matter for Repairing Tires. Martin Grout, North Yakima, Wash., assignor of one-half to Thomas W. Moore, same place.
- 632,221. Machine for Forming Rubber Articles. Charles E. Longden, New Haven, Conn., assignor to the Seamless Rubber Co.

DESIGN PATENTS.

- 31,305. Nipple. Christian William Meinecke, Jersey City, N. J. Filed June 21, 1899; term of patent, 14 years.
- 31,381. Sole. Humphrey O'Sullivan, Lowell, Mass. Filed July 12, 1899; term of patent, 14 years.
- 31,382. Heel. Humphrey O'Sullivan, Lowell, Mass. Filed July 12, 1899; term of patent, 14 years.
- 31,404. Tread for Pneumatic Tires. William G. Huber, Middleport, Ohio. Filed June 15, 1899; term of patent, 14 years.

TRADE MARKS.

- 33,354. Certain Named Rubber Shoes. The Joseph Banigan Rubber Co., Providence, R. I. Issued August 15. [Essential feature, the word "Army." Used since January 1, 1899.]

- 33,429. Insulating Composition. Volenite, Limited, London, England. Issued August 29. [Essential feature, the word "Volenite." Used since June 10, 1898.]

THE ENGLISH PATENT RECORD.

APPLICATIONS FOR PATENTS.

- 13,262. Fred Radcliffe, Waterloo Works, Oldham. Improvements in fountain douche spray and enema. June 27.
- 13,292. Kate Sarah Wilton Cox and George Warner, 104, Colmore row, Birmingham. Improvements in and relating to pneumatic tires. June 27.
- 13,313. Camden Mears, Frank Warren Mears, and Jules August Collet, 77, Chancery lane, London. Improvements in and relating to elastic tread or cushioned horseshoes. June 27.
- 13,496. Henry Harris Lake, 45, Southampton buildings, Chancery lane, London. Improvements in apparatus for applying rubber soles to leather boots and shoes. [George F. Butterfield, United States.] June 29.
- 12,521. Francis Robert Baker, 5, Corporation street, Birmingham. Improvements in pneumatic tires. June 29.
- 12,537. John Mitchell, 10, Walworth terrace, Kent road, Glasgow. A shielded resilient rubber tire. June 30.
- 13,590. Thomas Oliver Kent, 8, Quality court, Chancery lane, London. Improvements in or relating to means for preventing punctures in pneumatic tires. June 30.
- 13,624. Joseph Stenson Haswell, 18, Highcross street, Leicester. Improvements in pneumatic tires. July 1.
- 13,782. Henry Leigh, 4, St. Ann's square, Manchester. Improvements in pneumatic tires for bicycles and carriages. July 4.
- 13,840. Isidore Hendrickx, 77, Chancery lane, London. Improvements in the manufacture of material for automatically closing from within any punctures made in pneumatic tires. [Raoul Broquet and Cesar Dethier, Belgium.] July 4.
- 13,865. William F. Hill, 59, Great Brunswick street, Dublin. Improvement in pneumatic tires. July 5.
- 14,087. Arthur Cook, The Hawthornes, Quinton, near Birmingham. "The perfect puncture closing device" for pneumatic and tubeless tires and air tubes. July 8.
- 14,227. William Robert Lake, 45, Southampton buildings, Chancery lane, London. A process for the production of a material or substance resembling ebonite. [Friedrich Adolph Max Kaempf, Germany.] July 10.
- 14,408. George Gatton Melhuish Hardingham, Clun House, Surrey street, Strand, London. Improvements in submarine cables. [Fellon & Guillaume, Germany.] July 12.
- 14,423. Simon Pierre François Lehmkuhl, Zeltweg 15, Zurich, Switzerland. Improvements in pneumatic tire fastening. July 13.
- 14,504. Frederick Hyma Hallam, 117, Lisson grove, St. Marylebone, London. Improvement in dentists' punches for cutting holes in sheet rubber. July 14.
- 14,646. Frederick John Trench, 166, Fleet street, London. Improvements in or relating to methods of securing resilient tires on or to road wheels. July 15.
- 14,677. Frederick O'Connor Prince, The Silvertown Iron Works, Campbell street, Silvertown, London. Improved protector for pneumatic tires. July 17.
- 14,747. Mary Eleanor Evans, 17, St. Ann's square, Manchester. Improvements in or relating to dress shields or preserver. July 18.
- 14,808.-14,809. Arthur Hudson Marks, 45, Southampton buildings, Chancery lane, London. Improvements relating to pneumatic tires. July 18.
- 14,857. George Hatchett, 158, Edmund street, Birmingham. Improvements in pneumatic tires. July 19.
- 14,894. Joseph Arthur Page and Frederick Harding, 158, Edmund street, Birmingham. Improvements in elastic tires. July 19.
- 14,910. Johannes Schanz, 6, Bank street, Manchester. Improvements in the process of manufacturing cushion tires. July 19.
- 15,051. Miksa Hajos, 1-4, Mitre Court chambers, Fleet street, London. Improved inflatable bathing costume. July 21.

- 15,061. Theresa Eicksen, *née* Radbruch, 7, Quality court, Chancery lane, London. Improved elastic fabric for use as a ligament and for other purposes. July 21.
- 15,086. Berthold Kohlhaus, 65, Chancery lane, London. Improvements in tubes for infants' feeding bottles. July 21.
- 15,125. John Erskine and Thomas Korley Erskine, Penny Bank chambers, Halifax. Improvements in machines or apparatus employed in the manufacture of waterproofed felt. July 22.
- 15,136. Percival John Evison, 9, Warwick court, Gray's Inn, London. Improvements relating to pneumatic tires. July 22.

PATENTS GRANTED.—APPLICATIONS OF 1899.

5768. Double tube tire. Scoble, S., Greenwich.
5829. Rubber and metal pneumatic tire. Carmichael, L., Dundee.
6043. Utilizing India-rubber waste. Heinzerling, C., Eiserne Hand, Frankfurt o/M., Germany.
6126. Tubeless pneumatic tires. Demolder, F. F., London.
6234. Sponge tread tire. Pratt, C. A., Clinton, Mass., U. S. A.
6344. Treatment of Gutta-percha. Ramsay, W., London.
6656. Fastening tires to rims. Edwards, E., Middlesex. [Lozier Manufacturing Co., Toledo, Ohio, U. S. A.]
6750. Welding vehicle wheels. Marks, G. C., London. [Rubber Tire Wheel Co., Springfield, Ohio, U. S. A.]
6968. Devulcanizing India-rubber. Clark, P. L., Chicago, Ill., U. S. A.
7055. Rubber covered cork tire. Prest, J., Prest, T., and Prest, M., Blackburn, Lancashire.
7223. Double tube tire. Robertson, T., and Donaldson, T. F. S., Edinburgh.
7328. Non-slipping devices. Browett, W. T., and Browett, E. S., Coventry.
7404. Double inflation tire. Beldam, A., London.
7435. Dental plates. Gartrell, J. H., Penzance.
7636. Self vulcanizing compound. Garnier, E., Surrey.
7678. Waterproof fabrics. Hatschek, L., Vocklabruck, Austria.
7739. Tobacco pipe cleaners. Squires, A. C., New York, U. S. A.
7902. Spring tire with rubber tread. Siegrist, H., and Maier, E., Brombach, Baden, Germany.
7972. Self healing tire. Stone, R., Gloucestershire.
8106. Rubber substitutes. Lake, H. H., Middlesex. [Curtis, Boston, U. S. A.]
8107. Cork tread tire. Clark, G. H., Boston, U. S. A.
8109. Attaching pneumatic tires. Lake, H. H., Middlesex. [Junkins, L. D., Somerville, Mass., U. S. A.]
8191. Puncture proof tire. Taylor, H., Taylor, S., and McIntyre, W., London.

ALUMINUM VS. COPPER.

THE increasing price of copper wire, to the disadvantage of the use of that metal in the electrical industries, has led to experiments in the use of other materials in the construction of conducting lines. In the *Electrical Review* (New York), Charles T. Child points out the availability of aluminum for this purpose. At the present price of copper, aluminum, when conductivities are considered, is the cheaper metal of the two. It is more costly to insulate on account of the relatively large cross-section of the necessary wire, but if the price of copper advances a little more, or if that of aluminum is somewhat reduced, the advantage, even under these conditions, will undoubtedly remain with the white metal. That this view has begun to be accepted is evidenced by the fact that the Hartford (Conn.) Electric Light Co. have placed an order for 33 miles of aluminum cables—of seven strands, each strand made up seven wires of No. 11 B. & S. gage—for transmitting power from a new plant on Farmington river. The cable will be left bare, and the company estimate a saving in cost, compared with copper, of \$3500. The insulated wire trade, however, are not ready yet to accept all of Mr. Child's conclusions.

RUBBER GOODS EXPORTS FROM NEW YORK.

EXPORTS from this port, during the four weeks ended August 29, 1899, classed as "India-rubber goods," amounted in value and were consigned as follows:

Great Britain.....	\$25,902	Ecuador.....	\$ 355
France.....	6,107	Colombia.....	504
Germany.....	14,081	Chile.....	32
Belgium.....	3,495	Venezuela.....	55
Holland.....	142	Australia.....	5,871
Italy.....	65	New Zealand.....	665
Denmark.....	75	Hawaii.....	134
Norway and Sweden.....	201	China.....	3,750
Russia.....	914	Japan.....	623
Spain.....	30	British Africa.....	5,561
Switzerland.....	807	Portuguese Africa.....	43
Turkey.....	208	British North America.....	104
Azores.....	37		
Mexico.....	829	Total, August 2-29.....	\$74,056
Central America.....	706	Total, June 28-Aug. 1.....	82,302
Cuba.....	758	[Five Weeks.]	
Hayti.....	32	Total, May 31-June 27.....	81,804
British West Indies.....	316	Total, Apr 26-May 30.....	78,498
Danish West Indies.....	203	[Five Weeks.]	
British Guiana.....	60	Total, Mar 29-Apr 25.....	75,288
Brazil.....	768	Total, March 1-28.....	60,073
Argentina.....	261	Total, February 1-28.....	42,902

The value of such goods exported from New York amounts usually to about 60 per cent. of the total for the United States. These statistics do not include any rubber goods that may have been embraced in exports classed as electrical material, dental material, bicycle material, and the like, or tires shipped on bicycles. There were exported during the same period of four weeks dress shields valued at \$21,389, as follows: Southampton, \$12,784; Liverpool, \$2469; Hamburg, \$3474; Vienna, \$505; Antwerp, \$1015; Havre, \$1126; Australia, \$16. The exports for the same time embraced an item of "Electric cable" for Dublin, \$8862; "Vehicle tires" for London, \$710; "Insulating machinery" for Mexico, \$2400; "India-rubber scrap," \$10,943. Crude rubber was exported to the value of \$36,493, of which \$4645 was for Japan.

The new classification of exports of rubber goods adopted by the treasury department went into effect July 1. The following report has been made of total rubber goods exports from the United States during July:

Belting, hose, and packing.....	\$51,535
Boots and shoes (49,216 pairs).....	22,480
All other.....	99,918
Total.....	\$174,033

RUBBER GOODS EXPORTS FROM BOSTON.

For the week ending August 4.....	\$2,516
For the week ending August 11.....	5,618
For the week ending August 18.....	800
For the week ending August 25.....	819
Total for four weeks.....	\$9,753

THE King of Belgium, who is so deeply interested in the exploitation of rubber in the Congo country, has had the Belgian consul at Pará instructed to procure for him copies of all public documents relating in any way to the regulation of rubber gathering, the control of rubber lands, and the exporting of the product from the Amazon country.

UNDER the revised tariff of Newfoundland a duty of 35 per cent. is imposed on rubber boots and shoes, "all goods made all or partly of rubber or Gutta-percha," waterproof garments, rubber hose, hose lined or interwoven with rubber, and celluloid goods. "All other rubber goods, for all other technical, surgical and general purposes," pay 30 per cent. of their original value.

RECENT TRADE PUBLICATIONS.

THE TYER RUBBER CO. (Andover, Mass.) issue a new priced catalogue of their druggists' and surgical goods in soft and hard rubber, together with stationery, barbers' supplies, sporting goods, and notions, all sold under their "Tyrian" trade mark; also, their lower priced "Homestead" line. Founded in 1856, this firm have originated many valuable lines, and have always kept their production thoroughly up to date. Several new articles are catalogued here for the first time. The book is amply illustrated. [4 $\frac{1}{2}$ " \times 7 $\frac{3}{4}$ ". 106 pages.]

JOSEPH DIXON CRUCIBLE CO. (Jersey City, N. J.) publish a new catalogue of "Dixon's Graphite Productions," introduced with an account of the material *graphite*, which is known also as plumbago and black lead. It is sold as lubricating graphite, graphite paint and cements, stove polish, graphite crucibles, belt dressings, for electrical purposes, and in other forms. The manufacture of lead pencils is one of the chief departments of the graphite industry, for the "lead" in pencils is graphite and not lead, as is commonly supposed. The Dixon line of pencils is an extensive one, all the work of production being carried on in their own works, including the manufacture of rubber pencil tips. Incidentally they are large producers of rubber erasers for different purposes. [6" \times 9 $\frac{1}{4}$ ". 62 pages.]

THE GOODYEAR RUBBER CO. (New York) issue an illustrated net price list of their boots and lumbermen's overshoes, which for a quarter of a century have been so widely and favorably known under the trade mark "Gold Seal." [4 $\frac{1}{2}$ " \times 7 $\frac{1}{4}$ ". 8 pages.]

THE GOODYEAR RUBBER CO.'S Milwaukee branch—Walter W. Wallis, manager—have issued their No. 169, entitled "Mechanical Goods. Illustrated Catalogue and Price List of the Goodyear Rubber Co." It includes "Badger A1," "Pioneer," and "Gold Seal" rubber belting; endless rubber threshers belts; the standard packings; a large line of garden hose; air drill hose; fire hose of three grades, branded as above; and a great variety of smaller rubber products. [4 $\frac{1}{4}$ " \times 7 $\frac{1}{4}$ ". 64 pages.]

THE SYRACUSE RUBBER CO. (Frank C. Howlett, Syracuse, N. Y.) issued during the recent convention of fire department chiefs in that city a well arranged and neatly got up illustrated catalogue of "Fire Department Supplies," covering the very complete line carried by that house, embracing the production of all the leading manufacturers. [4" \times 6 $\frac{3}{4}$ ". 20 pages.]

THE MANHATTAN RUBBER MANUFACTURING CO. (New York) issue an illustrated "Special Catalogue of the Manhattan Vulcanized Rubber Emery Wheels," pointing out their uses and giving dimensions and prices. [3 $\frac{1}{2}$ " \times 6". 15 pages.]

ALSO RECEIVED.

HENRY R. WORTHINGTON, New York—Some Recent Installations of Worthington Condensing Apparatus [for steam plants.] 32 p.

The American Dunlop Tire Co., Belleville, N. J.—The Dunlop Detachable Pneumatic Tire and Dunlop Tubular Metal Rim for Carriages. 21 p.

The Kokomo Rubber Co., Kokomo, Ind.—Defender Special and Clover Leaf [Bicycle] Tires. Price List No. 5 [for 1900.] 4 p.

The Whitman & Barnes Manufacturing Co., Akron, Ohio—(a) "Easy" Rubber Vehicle Tires. 14 p. (b) Bicycle Tires. 12 p. (c) "Save Your Horse!" 8 p. (d) "And the Horse Won't Slip." 16 p. Mechanical Fabric Co., Providence, R. I.—Directions for Securing Hose Pipe Tires to Rims. 1 p.

New Brunswick Rubber Co., New Brunswick, N. J.—New Brunswick Tires, 1899. 16 p.

The B. F. Goodrich Co., Akron, Ohio—(a) Goodrich Pneumatic Carriage Tires. 12 p. (b) G. & J. Tires, 1899. 16 p.

SOME WANTS OF THE RUBBER TRADE.

INQUIRIES.

[61] **W**E have a request from a rubber manufacturer for the names of manufacturers of steam vulcanizers.

[62] "We wish to ascertain how to vulcanize rubber to copper plated goods. Can you tell us whether the material has to be dipped in anything before putting with the rubber, or whether the rubber will adhere without dipping? If necessary to put some preparation on the metal, can you tell us what the preparation is?"

[63] "I have a lot of inner tubes which I am anxious to make into cement. Have you any formula for reducing them? I have tried benzine in a churn, but have not been successful."

[64] From a shoe manufacturing firm: "Can you give us the address of parties from whom we can secure first quality rubber varnish?"

[65] The Little Rock Tent and Awning Co., Little Rock, Ark., write for the addresses of all the manufacturers of rubber druggists' sundries.

[66] We have a request for a machine for cutting up rubber tires, the purpose for which they are to be used not being mentioned.

[67] A firm in Chicago who are subscribers to THE INDIA RUBBER WORLD write: "Kindly give us the names of large importers of India-rubber in this country."

ANSWERS.

[46] Fenton's Patent Artificial India Rubber Syndicate, Limited, 345, City road, London, E. C., state that they can supply washers for hard rubber connections and refer to their American representative [see advertisement in this paper.]

[47] J. H. Brereton & Co., Bancroft's buildings, Ormond street, Liverpool, write in answer to this and other inquiries in the same line that they are sellers of scrap rubbers and also buyers of old rubber shoes, and solicit correspondence.—Emil Ihm, Nos. 61-63 William street, New York, writes in similar terms.—William Somerville's Sons, No. 66 West Broadway, New York, wish to be recorded as being purchasers and users of old rubber shoes.

[54] "The Mayall Rubber Co. were located at Reading, not Waltham, Mass. The concern was started by Thomas J. Mayall, who had had a small factory in Reading, where he worked over his patents and did considerable experimenting for Mr. Cheever, of the New York Belting and Packing Co. His associate was the late E. B. Preston, afterward of Chicago. They made the 'pocket red rubber glove,' and built up quite a business. Both gentlemen are now dead, and the mill passed into other hands years ago."

[58] The Traun Rubber Co. (New York) make a specialty of rubber for the stamp trade, and suggest as good houses for the other supplies to equip a rubber stamp plant: William A. Force & Co., No. 59 Beekman street, New York; J. W. F. Dorman Co., No. 121 East Fayette street, Baltimore, Md.; and Stewart & Co., No. 201 Broadway, New York.

[59] The Metropolitan Rubber Co., No. 35 Howard street, New York, have some rubber spreaders for sale.

THE rubber exported from Mossamedes under the name of "Almeidina"—which is the name of the Portuguese trader who first brought it into notice—is said by Dr. Otto Warburg, in *Der Tropenpflanzer* (Berlin), to be the product of a *Euphorbia*, presumably *E. rhipsaloides*, Welw. The natives call the plant "cassoneira." The plant is abundant throughout South Angola, and is said to be found also in the southern part of the Congo Free State.

THE ANTWERP RUBBER MARKET.

TO THE EDITOR OF THE INDIA RUBBER WORLD: The sale by inscription of August 31 was very firm for all the Congo rubber, of which every lot was sold at prices which show an average increase on valuation of about 1½ per cent.; some parcels even found buyers at 30 centimes above valuation. The other sorts were neglected and have mostly been withdrawn. In Congo rubber 209 tons were offered for sale; in other sorts, 60 tons, of which 8 tons were sold.

The next sale will take place on the 26th inst., when about 303 tons will be offered, composed principally of the arrivals per *Albertville*, which left the Congo on August 28, the details of her cargo not being known yet.

C. SCHMID & CO.

Antwerp, September 2, 1899.

ANTWERP RUBBER STATISTICS FOR JULY.

DETAILS.	1899.	1898.	1897.	1896.	1895.
Stocks, July 31 . . . kilos	345,205	256,263	121,932	68,180	91,506
Arrivals in August . . .	299,604	108,737	194,193	115,434	37,948
Aggregating . . .	644,809	365,000	316,125	183,614	129,454
Sales in August . . .	244,377	220,474	158,847	126,314	46,989
Stocks, August 31 . . .	400,432	144,526	157,275	57,300	82,465
Arrivals since January 1	2,395,870	1,222,048	1,064,830	539,973	299,255
Sales since January 1 . .	2,258,778	1,172,885	1,046,820	533,668	256,222

BELGIAN RUBBER TRADING COMPANIES.

[Name, date of formation, capital (in francs), size of shares, and quotations on the Brussels bourse January 1 and August 25, 1899.]

	Capital.	Shares.	Jan. 1.	Aug. 25.
Cie. du Congo pour le Commerce et l'Industrie (1886) . . .	1,227,000	500	2880	2650
Société Anonyme Belge pour le Commerce du Haut Congo (1888) . . .	5,050,000	500	540	575
Ditto—ordinary . . .	6,000,000	500	1800	2205
Cie. des Produits du Congo (1889) . . .	1,200,000	500	505	710
Société du Lomami (1898) . . .	3,000,000	500	1100	1285
Ditto—ordinary . . .	2,000,000	500	1320	2275
Comptoir Commercial Congolais (1898) . . .	500,000			
Caoutchoucs de San Manoel (1899) . . .	1,000,000	500		
Société des Produits Vegetaux du Haut Kassaï (1898) . . .	1,250,000	50	200	170.50
Ditto—ordinary . . .	1,000,000	50	100	162.50
Cie. du Caoutchouc, Monopole du Portugal (1898) . . .	1,000,000	100	206	155
Ditto—ordinary . . .	400,000	100	310	175
Cie. Caoutchouc du Luabo (1898) . . .	1,000,000	100		
Ditto—ordinary . . .	1,000,000	100		
Cie. pour l'Exploitation du Caoutchouc de Buzi-Mozambique (1899) . . .	200,000	500		
Ditto—ordinary . . .	200,000	500		
Plantations Lacourt (1899) . . .	800,000	100		
The Gold Coast India Rubber Co. (1899) . . .	1,000,000	100		
Ditto—ordinary . . .	1,500,000	100		
Société Belgika (1899) . . .	3,600,000	100		
Ditto—ordinary . . .	334,000	100		
Société Coloniale Anversoise (1898) . . .	1,200,000	500		
Ditto—ordinary . . .	2,400,000	500		
Colonial Rubber (1898) . . .	2,640,000	100	100	100
Société Anonyme d'Agriculture et de Plantations au Congo (1898) . . .	600,000	500		
Caoutchouc du Matogrosso, Brésil, (1898) . . .	1,000,000	500		

SHIPPERS OF CONGO RUBBER.

[Grades Handled, and Consignees at Antwerp.]

Congo Free State government (also called *Demaine Privé*)=Upper Congo, Equateur, Uellé, Aruwimi, Yakoma; Kassai, red and black; Lower Congo red thimbles.

Consignees: Caisse Hypothécaire and Bunge & Co.

Société Anonyme d'Agriculture et de Plantations au Congo=Bangui.
Consignees: Bunge & Co.

Société Anversoise de Commerce au Congo=Mongalla.
Consignees: Bunge & Co.

Société A B I R (Anglo-Belgian India Rubber and Exploration Co.)=Lopori.
Consignees: Société A B I R.

Comptoir Commercial Congolais=Wamba red and black thimbles.
Consignees: Comptoir Commercial Congolais.

Société Anonyme Belge pour le Commerce du Haut Congo=Upper

Congo, red and black; Kassai, Bussira, Rukl; Lower Congo, red thimbles.

Consignees: Coloniale Anversoise, Société Anonyme.

Société du Lomami=Upper Congo, Lomami.

Consignees: Société Coloniale Anversoise, Société Anonyme.

Société des Produits Vegetaux du Haut Kassai=Kassai, red and black.
Consignees: M. S. Cols.

Société Belgika=Red Kassai, Lower Congo.
Consignees: Charles Dethier.

Th. Lacour=Upper Congo.
Consignees: Bunge & Co.

CONSIGNEES FOR OTHER SORTS.

Société Coloniale Anversoise.

Bunge & Co.

Osterrieth & Co.

G. & C. Kreglinger.

J. Verspreuwen-Wilmotte.

M. S. Cols.

E. Karcher & Co.

L. & W. Van de Velde.

William Mallinckrodt & Co.

Société Anonyme pour le Commerce Coloniale.

Willart Frères.

RUBBER INDUSTRY IN MASSACHUSETTS.

THE following comparison is afforded by the returns made by 47 rubber factories in Massachusetts to the state bureau of labor statistics:

	1897.	1898.
Private firms	20	20
Number of partners	37	36
Corporations	27	27
Number of stockholders	936	947
Capital invested	\$11,165,376	\$10,875,309
Value of stock used	\$12,281,435	\$14,039,494
Value of goods made	\$19,955,728	\$24,207,350
Average number males employed	4961	5202
Average number females employed	4186	4357
Total average number employed	9147	9559
Smallest number employed	7698	8254
Largest number employed	10,309	10,866
Wages paid	\$3,748,565	\$4,092,744
Average yearly earnings	\$409.81	\$428.16
Proportion of business done, compared with total capacity	61.66%	68.09%
Average number of days in operation	253	269

These figures are compiled from "The Annual Statistics of Manufactures, 1898. Thirteenth Report." This publication is not intended as a complete census of the industries of Massachusetts, but it is claimed that the showing made by the factories reporting in any one industry is sufficiently representative to permit the figures presented to be regarded as an indication of the degree of progress made by the industry as a whole.

The last state census of Massachusetts, covering the calendar year 1895, gave the following particulars regarding "Rubber and Elastic Goods":

Number of establishments	76
Number of partners and stockholders	1092
Amount of capital invested	\$12,938,874
Value of stock used	\$15,588,553
Value of goods made	\$24,967,119
Average number of employes	10,504
Amount paid in wages	\$4,555,991

It should be noted that the year 1895 occurred during a period of industrial depression, for which reason it is probable that a great increase has been shown by the rubber industry in every year since.

THE first flowering of the imported *Kickxia Africana* in the Trinidad botanic garden is reported in the *July Bulletin*. The plants were five feet high at eleven months after being set. Superintendent Hart says this is probably to be considered as a premature flowering, induced by an exceptionally dry season. The plants do not appear, however, to have suffered in health, as they have made fair growth from the time of planting.

FOREIGNERS WORKING AMAZON RUBBER.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Replying to your favor of inquiry, we must express our regret not to be able to give you such ample information as you may desire for the benefit of your readers. The fact is that not much is known here that can be thoroughly relied on. There are the following companies which now are taking an active interest in the working of rubber, viz.:

1. The Rubber Estates of Pará, Limited, who are working considerable rubber forests in the so-called Islands district, about 400 miles steaming from Pará.

2. La Brésillienne, Société Anonyme, a Belgian company of Brussels and Liverpool, working several estates smaller than the one first named, and in the same district.

3. The Orton (Bolivia) Rubber Co., Limited, of London, who have taken over the flourishing business and extensive rubber forests of the late Dr. Antonio Vaca Diez, situated chiefly in the Beni district of Bolivia.

4. A French company, which has been formed recently in Paris, to buy and work the large rubber forests of the Paris firm of F. M. Marques & Co., situated on the river Javary, an important tributary of the Amazon.

We have not been able to ascertain the amount of capital invested in these undertakings, and as they have only recently started work, it is too early to say anything about results.

Senhor Ballivian, we understand, has had his extensive rubber forests, situated on the river Abuná, surveyed, but so far we do not hear of his having done anything with reference to surveys of the Madeira-Mamoré railway, with which his name has been connected.

X. Y. Z.

Pará, Brazil, August 23, 1899.

THE RUBBER TRADE IN HAWAII.

TO THE EDITOR OF THE INDIA RUBBER WORLD: Business at present is conducted here somewhat differently from the methods which prevail in the States. In the first place, there are no commercial travelers here, except the local ones. The license for foreign travelers is \$500 per year, to protect local wholesale dealers. Consequently, most of the retail dealers, as well as the different plantations, buy from the wholesale houses, which are located in Honolulu.

I should judge that the demand for rubber clothing, boots, and shoes is light, as the natives and the Japanese and Chinese go barefoot during the rainy season. There is a good demand for rubber hose, packing, etc., large quantities of which are used around the mills, plantations, and pumping stations. These are all supplied from Honolulu. The principal firms which supply them are:

E. O. Hall & Son.
Theodore H. Davies & Co., Limited.
H. Hackfeld & Co., Limited.
Honolulu Iron Works.
Pacific Hardware Co.

These firms are all right. They handle nearly all the plantation and steamer supplies. Their headquarters are in Honolulu. They not only run the stores, but are agents for most of the sugar plantations, and handle their sugar. Thus you can see that it is a wheel within a wheel.

HENRY LAMPSON.

Honolulu, Hawaiian Islands, September 5, 1899.

RUBBER pedals are preferred by bicyclists in Siam, according to the Belgian consul at Bangkok, as many Siamese and Chinese pedal without shoes or sandals.

RUBBER CONSUMPTION IN GERMANY.

THE imports of crude India-rubber and Gutta-percha into Germany for the first half of 1898 and the first half of 1899 are shown by the following figures (denoting pounds), together with the exports for the same period, the difference indicating the quantity retained for consumption:

	Imports.	Exports.	Net Imports.
January-June, 1898.....	11,333,740	2,692,140	8,631,600
January-June, 1899.....	13,900,260	3,959,780	9,941,480

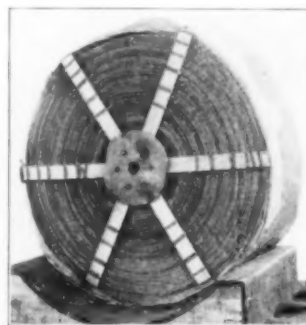
The next comparison relates to the imports and exports of manufactures of India-rubber, as classified in the German customs returns, in pounds avoirdupois, for the first half of 1898 and 1899, respectively:

IMPORTS.		EXPORTS.	
1898.	1899.	1898.	1899.
188,760	204,160	...	...
91,000	731,440	...	...
327,960	271,480	...	...
45,900	38,720	...	...
408,100	438,160	...	...
33,440	44,220	...	...
81,600	70,400	...	...
27,010	26,400	...	...
17,380	11,220	...	...
19,140	26,340	...	...
...
1,018,380	1,895,740	...	...
Total, Pounds.		5,240,000	5,850,780
Values		\$5,971,000	\$6,561,450

[a—included in "Fine Soft Rubber Goods."]

A LARGE RUBBER BELT FOR THE FAR WEST.

THE illustration herewith has been made from a photograph of a roll of elevator belting made by the Manhattan Rubber Manufacturing Co. (New York) and shipped by them



to the Pacific coast. The belt is 4 ply, 1135 feet long, and 24 inches wide, and weighs approximately 4500 pounds. It is, so far as we know, the largest rubber belt in use on the Pacific coast. The same company are manufacturers of a full line of belting for all the standard uses, besides which they are prepared to fill orders for any special

demand, together with a wide range of other mechanical rubber goods.

KANSAS CITY WILL BUY FIRE HOSE.

DURING a recent fire in Kansas City, Mo., according to a newspaper report, 2000 feet of hose gave way, having become too rotten to withstand the pressure. The result was that many of the hose reels were left with only 200 feet of hose, instead of the usual equipment of 750 feet. The city council has since ordered the purchase of 5000 feet of hose, and made an appropriation of \$7000 for hose. It is reported that the city comptroller threatened to resign his office if the appropriation were made, but his resignation had not been handed in at last accounts.

A GOLD medal has been awarded by the Linnean Society of London to Mr. F. H. Baker, of Kew, for important contributions to the science of botany, including several articles on rubber plants.

NEW GOODS AND SPECIALTIES IN RUBBER.

THE LATTINA CELLULAR TIRE.

A GREAT many different tires have been invented to accomplish what the pneumatic tire does in overcoming vibration and increasing speed, while obviating danger from puncture. These inventions have brought out attempts at impervious treads, flexible shields for the tread, metal plates embedded in the rubber, and a variety of other constructions, while perhaps as much thought has been put upon cellular forms as upon any other air holding tire made. This latter form, as a rule, has been fairly successful, it has as many disadvantages as the ordinary pneumatic. A new type of tire has appeared on the market, which promises to solve the problem, and it is shown in the illustration. It is a combination of three tires—the pneumatic, the cushion, and the sponge tire. It does the work of the pneumatic, as it has just enough resilience to enable the tread to give where it encounters small ob-



jects in the roadway. The central tube gives the same spring that would be given in a cushion tire, while air cells that occur through the body, being placed at regular intervals, and arranged with exactness, accomplish what the smaller air cells in sponge rubber are expected to do, but without the uncertainty that comes from uneven sponging. In manufacture the tire is built of a series of disks placed side by side and held in position by an ordinary single tube cover. The air spaces are filled with uncompressed air, and even if it were possible to puncture them, the rider would never appreciate the difference in the riding of the tire. This type of construction does away entirely with the necessity for the air pump, and also for the repairing that is such a bane to the user of the ordinary pneumatic. The "Lattina" tire can be secured to almost any rim, and is available for cycles, automobiles, or other vehicles. It is manufactured by the Rubber Tire Co. (Philadelphia), the general selling agency being in the hands of the well known rubber house of Latta & Mulconroy, No. 1215 Market street, Philadelphia.

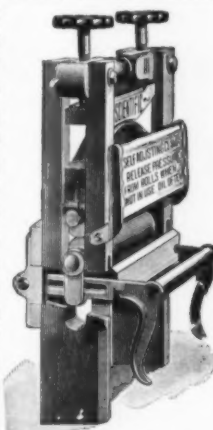
THE TYRIAN "EXCEL" NIPPLE.

THIS is a new article, in the manufacture of which the point has been kept uppermost in mind of producing a nipple that will not collapse in use. This is the point in relation to which objections are oftenest made to the nipples which have been in use hitherto. The manufacturers feel that the form adopted for the "Excel" obviates the difficulty so often complained of, besides which this nipple is referred to as remaining in a serviceable condition longer than many others in the market. Furthermore, its manufacture involves the use of good material and good workmanship. These goods are stamped "Tyrian," and are guaranteed. With the first gross taken by any dealer an ornamental glass jar is supplied free. [Tyer Rubber Co., Andover, Mass.]



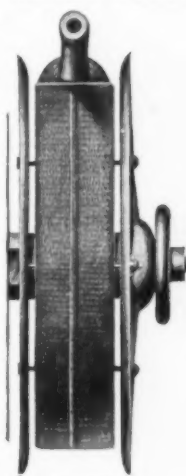
THE HAMILTON CLOTHES WRINGER.

THIS wringer introduces as a new feature, which is covered by patents, a method of fastening the machine to the tub, by means of which the pressure on the rolls is released immediately when the wringer is removed. It will be seen, from the illustrations, that instead of being held in place by thumb screws, this wringer is attached to the tub by spring pressure, capable of being adjusted to any thickness. The rolls being tightened by the same spring pressure, as soon as the wringer is removed from the tub the springs drop and the pressure on the rolls is released. By means of this construction the heavier the article going through the rolls the tighter the wringer grips the tub. This wringer avoids the necessity of loosening the top screws when the wringer is not in use, which is apt to be neglected, to the injury of the machine. The construction of the bottom roll of the Hamilton wringer—resting upon a loose transverse bearing—in connection with its large spring capacity, enables the user to wring any article, from the finest fabric to the heaviest quilt with very little adjustment. [Lovell Manufacturing Co., Erie, Pa.]

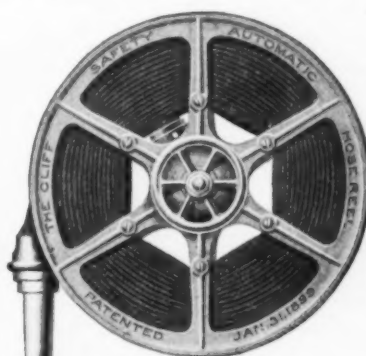


THE CLIFF SAFETY AUTOMATIC REEL.

THIS reel is the latest device for holding hose for interior fire protection. It may be changed instantly from a non automatic to an automatic reel by pushing the small hand wheel back on the stem of the valve until it locks with the large wheel. This arrangement permits of the reel being allowed to remain in a building as non automatic, and yet it can be so



SIDE VIEW.



FRONT VIEW.

quickly changed to automatic that in case of fire a full supply of water may be obtained through 100 feet of hose in less than fifteen seconds. As this is instantaneous, practically speaking, it affords the best obtainable protection against damage by fire. By unlocking the hand wheel from the reel and pulling it out on the stem of the valve the water supply may be shut off with five turns of the hand wheel. This may be done so quickly that all unnecessary water damage is positively prevented. The

hose is attached direct to the hub of the reel, which is the valve. This allows the hose to be put on the reel in single layers. With hose thus placed on a reel it is impossible for it to become kinked or twisted when unreeling, and as no water enters the hose until the last lap leaves the reel, the party operating is not hindered by having to handle a lot of hose full of water. By having the reel so arranged that it may at all times (except when required for use) be non automatic, all danger is avoided of the water supply being turned on accidentally or mischievously and the objection raised to reels that are always automatic is removed. This device is so simple and easy to operate that even a child may use it. Although the reel does not swing, hose can be unreel in any desired direction. It can never be affected by the corrosion which occurs invariably in valves. Where valves have to be opened by a small hand wheel, they are frequently rendered useless by corrosion, which sets them so firmly that there is not sufficient strength in one's hand to operate them. With this device such a great leverage is obtained from the large wheel that the valve can always be easily opened. This reel projects from wall or stand pipe a less distance than any other hose holding device on the market. This makes it particularly desirable for narrow hallways. This reel attaches direct to the nipple of a supply pipe, thus avoiding the necessity of attaching to walls, and saving the time and expense of that work. [Cliff & Guibert Co., No. 39 Cortland street, New York.]

"VELVET" RUBBER SOLES.

THE successful introduction of rubber shoe heels has led the same manufacturers to offer rubber soles, for which line the demand promises to become equally gratifying. The engraving herewith illustrates what is known as the "Velvet" sole, which

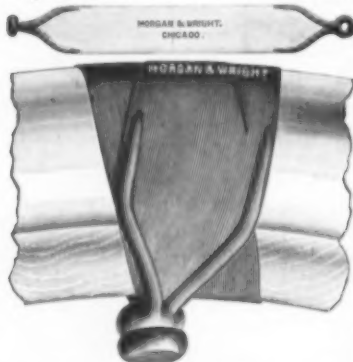


differs from the ordinary molded rubber soles in that it is made on curved molds, thus giving it the exact shape of the bottom of the shoe. The advantage of this feature is that

the sole adheres much more closely to a leather shoe than the old fashioned soling, or a sole formed in a flat mold. "Velvet" soles are packed in neat individual cartons, and with each pair is furnished a compressible tube of cement containing enough to attach the soles to the shoes. [F. W. Whitcher & Co., No. 4 High street, Boston.]

MORGAN & WRIGHT PUNCTURE BAND.

THIS device, intended for a temporary repair for a punctured bicycle tire or torn casing, while a rider is out on the road, is



referred to as simple and easy to attach. Besides, being very elastic, it can be wrapped two or three times around the tire and rim, as shown in the cut. This band is also convenient as a luggage carrier, or a pair of them could be used as trousers guards. It is made of one piece of pure vulcanized rubber. The band is 10 inches long and 1½ inches wide,

one end being made with a loop and the other provided with a button by means of which it can be fastened in the same

manner as the rubber toe clip made by the same firm. [Morgan & Wright, Chicago.]

REVOLVING RUBBER SHOE RACK.

EVERY merchant who retails rubbers and shoes is likely to find the article which is illustrated herewith a convenient addition to the equipment of his store. The rubber stock, which is often kept in boxes, too often falls into confusion. If it were shown in an attractive case customers could see the goods better and might thus often be reminded of their needs in a way which would lead to sales. With the use of the revolving combination rubber and shoe rack, the stock of rubbers can be



sorted out into sizes, each in its compartment, properly labeled on the edge of the shelf. Each rack has 20 compartments and each is divided again by wire partitions into three compartments, so that the rack will hold 720 pairs of rubbers, or 180 pairs of ladies' shoes in boxes, as shown in the cut. This does not include what can be placed on top. Out of season the wire partitions can be removed, making a display rack which can be kept constantly in use. The width is 32 inches; height, 70 inches; weight, crated, 130 pounds; price at factory, \$10. [Perfection Fixture Co., Flint, Mich.]

THE director of the botanic station in Bermuda reports the existence on that island of 400 acres of land on which, in his opinion, the *Hevea* rubber species might be cultivated profitably. It is hard to understand, however, why he should mention six years as the limit of time required for the trees to begin to yield rubber.

HEARD AND SEEN IN THE TRADE.

THE decided advance in price of many important commodities of late—pig iron, for example, having gone up from \$10 to \$21 a ton since the first of the year—led me to ask a rubber manufacturer whether a further advance in his line was to be expected. "Not just now," he replied. "We shall have to be content, for the present, with the advance which dates back to several months ago. By the way, when we were putting up our prices, everything else seemed to be going down. Our customers would say: 'Iron and other metals and all the textiles are going down; why shouldn't rubber goods become cheaper, as well?' Then we had to point out that our raw materials had all gone up—crude rubber very materially—since our prices had last been fixed. Then some rubber goods had fallen too low in price as the result of sometimes too keen competition in selling, though we had only ourselves to blame for that. That fact had its effect, however, in preventing our making an advance a year ago which was commensurate with the advance in crude rubber. Prices of rubber goods are not as high yet, in some lines, as they ought to be, but this is not the time to agitate the question of a further advance. Though the factories are fairly busy, and orders are coming in all the time, the rush of this year's business is over, and for this reason alone now is not a good time to attempt a revision of prices. The fact that iron and lumber and nearly everything else is going up will have no effect on rubber, because these commodities have no relation to our trade. Besides the facts I have mentioned, crude rubber is no higher now than it was a year ago; some grades are a trifle lower. Cotton duck is higher, since a combination has been effected in that line, and we have not been able to renew our yearly contracts. The duck manufacturers don't seem to look favorably upon the idea of contracts at any price just now, evidently preferring to take their chances on prices going still higher. But we cannot base any revision of rubber goods prices upon this feature alone. There is no telling what the crude rubber market may be a few months later, however, or what may be the demand for rubber goods with the opening of the spring trade."

* * *

THE Mechanical Rubber Manufacturers' Association does not seem to have taken any active part in attempting to regulate prices of goods for some time past. At the time when this organization was hard at work trying to raise the level of prices the fact developed that some of the concerns embraced in it were getting relatively better prices for their goods than others. Any action by the association must necessarily have been confined to a uniform change in discounts, and this, in order to meet the views and fit the circumstances of those concerns which most needed an advance, would have raised the prices of certain other concerns to an inconveniently high point. Hence it was determined that, if the particular requirements of each separate concern were to be considered in fixing rates of discount, each manufacturer might as well make his own prices, and this is what followed. That is, there was a general withdrawal of discounts, and each member was left free in the matter of making subsequent quotations. The association had served a good purpose in bringing about a better understanding of the conditions of trade.

* * *

IN answer to a question whether the advance in rubber prices had widened the market for the cheaper grades of

goods, one manufacturer expressed an emphatic "No." He said that the large users of rubber goods, who are the most important customers of the manufacturer, buy intelligently, and that the intelligent buyer wants the best grades. Such people are the dependence of the mechanical rubber trade; they buy regularly and in good amounts, and are willing to pay fair prices for a good article. Such buyers will never be driven to the use of inferior goods by advancing prices. There are some people, however, who are always looking for low priced goods, not having learned that the best is the cheapest in rubber, perhaps more than in any other line of manufacture. They will always buy what is offered to them for the least money. Now and then one of this class develops into a buyer who considers quality in making a purchase, but his place is speedily taken by a new consumer to whom one rubber article is as good as another, and who will take the cheapest thing to be had. It has happened in the past that rival salesmen for the best grades of goods have indulged in price cutting by means of too liberal discounts, and manufacturers of such goods have been obliged to make concessions in order to compete with the trade in their own line, but they have not in the past, and they do not now, feel the competition of goods that are low priced because they are low in quality. But if the general advance in prices of manufactured goods has not led to a further advance in rubber lines, it has at least made it easier for the rubber men to stand firm, while one result of the rubber association has been to lessen the price cutting that at one time was so prevalent.

* * *

"WE have a great deal to learn yet about tires," said a selling agent in this line. "One of the biggest mistakes in the trade is the tendency of talk of the quality of the rubber used as the principal thing. Why any kind of rubber in an inner tube will hold air; it is the fabric that makes the tire. It isn't enough that the fabric shall be strong, though this is an important point. There are no end of tires in which the fabric breaks with any sort of jar or shock or other rough usage, and a puncture due to the employment of a fabric that can't stand such usage cannot be repaired satisfactorily by any method ever devised. But the fabric should also be pliable. If it is stiff, there will always be a tendency to break. Besides, the softest fibers make the best tire, for the reason that they wear against each other less in service. These points have been appreciated by some of the bicycle tire makers, but they become doubly important when a pneumatic tire is demanded for automobiles."

THE MAN ABOUT TOWN.

FOR NAVIGATING THE UPPER AMAZON.

ON August 9, a small steamer was launched by the Messrs. Thornycroft, at Chiswick, England, for the Peruvian government, for use in navigating the upper Amazon, from Iquitos to a point 1095 miles distant, on the Pichis river. That is the proposed terminus of the Central Road of Peru, which at present extends only from Lima to Oroya. Among those present at the launching was Don H. Guillaume, consul general of Peru, at Southampton, England, who wrote to THE INDIA RUBBER WORLD, December 15, 1893, suggesting the means of transportation now about to be undertaken. At the launching he spoke of the wealth of rubber trees along the Pichis and the route of the railway yet to be completed.

THE RUBBER INDUSTRY IN JAPAN.

A LETTER to THE INDIA RUBBER WORLD from a Japanese gentleman who has become interested in the extent and character of the rubber industry in America, gives some facts regarding the business in his own country, so far as he is able to recall what he has seen and heard on the subject.

The Mitado Rubber Co., at Tokyo, started seven or eight years ago and are now making mechanical goods profitably. One of the company—the president's brother—first visited the United States, where he picked up some idea of rubber working. On his return he made some small articles of rubber, using an iron rice pot for a vulcanizer, and from this beginning the factory has grown. They have tried to make tires, but without success.

Another mechanical goods factory, at Haku-kai-do, in northern Japan, was started a year or two earlier.

There are several manufacturers of electrical equipment in Japan, four of which attempted, some three years ago, to insulate wires with rubber, but with little success. One was The Miyoshi Electrical Instrument Manufacturing Co. Another was The Fujikura Electrical Wire Manufacturing Co., believed to be the only company that has persisted in this line. They learned to compound rubber from an encyclopedia. The other two companies are located at Kanagawa and Oki.

Our correspondent says that the carriage cloth and rain coats used in Japan are mostly of oil cloth. Some rubber coats are made by brushing imported rubber cement over the cloth while stretched, and drying it in the sun.

The following table, compiled from Japanese official statements, gives the quantity (in pounds) of "Caoutchouc and Gutta-percha" imported in each of three years past, as classified there:

	1896.	1897.	1898.
Crude	32,915	24,476	34,982
Sheet	83,940	100,440	65,837
Total	116,855	124,916	100,819

No indication is given of just what is meant by "sheet rubber."

The Japanese government reports the value of all imports of India-rubber manufactures in yen, as follows, the equivalents in United States money being added, according to the value of yen in each year:

YEARS.	Yen.	Dollars.
In 1892	146,284	\$108,981.58
In 1893	124,556	82,331.51
In 1894	143,410	79,737.96
In 1895	222,795	109,392.34
In 1896	293,405	155,211.24
In 1897	272,956	139,480.51
In 1898	279,954	140,416.13

These figures are probably far below the total importation of goods involving the use of more or less rubber. In 1898 the imports of "elastic boot webbing" amounted to 128,600 yen; "belting and hose for machinery," 187,029 yen; "submarine and underground telegraph cables," 185,270 yen; etc. Bicycles are not classified separately, but with carriages. The sources of the belting and hose imported are given as follows, with the values in yen:

	1896.	1897.	1898.
Australia	1,364	—	2242
Germany	12,764	13,276	19,129
Great Britain	112,056	132,517	89,111
United States	33,797	63,732	75,620
Other countries	831	—	928
Total	160,812	209,524	187,030

The value of exports of rubber goods from the United States to Japan, by fiscal years ending June 30, has been as follows, according to statistics recorded at Washington:

YEARS.	Value.	YEARS.	Value.
1880-90	\$22,871	1894-95	\$19,441
1890-91	12,945	1895-96	37,833
1891-92	22,714	1896-97	42,006
1892-93	27,984	1897-98	68,440
1893-94	12,698	1898-99	57,579

ADULTERATIONS IN CRUDE RUBBER.

OUR contemporary in Dresden—the *Gummi-Zeitung*—which often has dwelt upon the constantly growing unreliability of the shipments of crude rubber, and especially the premeditated adulteration of rubber, returns to the subject in a late issue. It says the time has come for facing this evil with determination, for the reason that the losses sustained by manufacturers through the fraudulent admixtures are becoming greater rather than smaller. Complaints have been made to our contemporary lately of the adulteration of crude rubber to a degree which overtops everything heard of heretofore, and these do not concern alone those brands which are usually full of impurities—with prices quoted accordingly—but also certain grades in which gross frauds were formerly unknown, and from which they should be excluded by the high prices charged. Those especially mentioned recently as being materially adulterated are scrappy Manáos negroheads; also Cameta, Rio Negro, and Pará negroheads. The lumps consist sometimes of an outer layer of rubber filled with burlap rags, tow, wood, and large stones. In single shipments these frauds were found many times repeated, stones being the more prevalent foreign substance. In one case, recently, were found over 100 pieces of flint of considerable size. Looking aside from the direct material loss sustained by the manufacturers through these fraudulent practices, from loss in weight, great danger lies in the possibility that the stones may reach the machines undiscovered. Flint is harder than steel, and the expense of repairing a ruined steel roller—if it can be repaired at all—is best known to those within the industry. Most rubber dealers would not care to be held responsible for such damages; but it would be nothing more than their implied duty to protest vigorously to the shippers across the ocean that such fraud must stop, as otherwise the respective rubber sorts cannot longer be bought in confidence, and claims for damages will be prosecuted vigorously. The *Gummi-Zeitung* wishes to be apprised by manufacturers of all shipments involving frauds of the class above referred to. Publicity will be given to these cases, the attention of those concerned being called to any irregularities and their abandonment urged. Our contemporary also pleads with the trade across the ocean to take suitable steps against such practices, in order that confidence may not be weakened still further in this industry already so full of complications.

THE INDIA RUBBER WORLD'S Pará correspondent writes: "The principal exporting rubber merchants of Pará have written to the receivers of Islands rubber expostulating seriously against the frauds lately committed in the same, such as mixing flour in the milk, and asking their coöperation in putting a stop to this dishonesty. No rubber will henceforth be received without passing the severest scrutiny."

The late Joseph Banigan, in a public address, quoted the statistics of the crude rubber imports into the United States in 1894, adding: "Strange to say, 9,793,342 pounds of that rubber, so-called, was nothing but water and mud, and that water and mud cost \$5,396,000. Why should the United States of America pay five millions of dollars for water and mud?"

NEWS OF THE RUBBER TRADE.

ELECTRIC PLANT OF L. CANDEE & CO.

THE L. Candee & Co. (New Haven, Conn.) are erecting a building 34 x 62 feet, 32 feet high, to be used as an electric light and power plant. It adjoins their Elm street factory, on a part of the land purchased recently from the Warner Manufacturing Co. It will contain a 500 horsepower vertical engine, supplied by the Edward P. Allis Co., with two 150 kilowatt generators, direct connected, bought from the General Electric Co. The Candee company will also move their old electric plant to the new building. Electricity is now used by the company for lighting, for power for the blacksmith department, and to run the ventilating fans.

CHANGE OF RUBBER SHOE DISCOUNTS.

THE extra 5 per cent. discount on orders for rubber boots and shoes placed during the summer months will not be allowed after October 15, as regards jobbers, nor after November 1, as regards retailers. The regular discounts will then apply—25 per cent. on first quality goods and 25 and 10 per cent. on second quality. The season will end March 31 next. It is agreed in the trade that the volume of orders thus far this season has been unusually large. The severe weather of last winter practically exhausted all stocks in the hands of dealers, and larger orders than usual were necessary in order that the beginning of a new winter should show the usual quantities of goods on hand.

OPENING OF THE TENNIS GOODS SEASON.

F. D. BALDERSTON, tennis sales agent for the United States Rubber Co., with headquarters in Boston, spent the past month in the West, visiting the trade. He carried with him a line of samples that the company regard as models, both in fit and in style. The new season in tennis goods opens October 1, with no change in prices. The current year has been the most prosperous of any ever experienced in the tennis trade, Mr. Balderston being authority for the statement that the increase over last year's business has been 33 per cent.

NO SHOE AUCTIONS THIS FALL.

THE following circular, issued from the New York offices of the United States Rubber Co., under date of September 16, explains itself:

DEAR SIR: In response to many inquiries, the United States Rubber Co. wishes to announce that, continuing the policy it adopted at the beginning of the season, it will not offer for sale, either publicly or privately, any damaged or out-of-style goods at any time prior to January, 1900.

The company makes this announcement in the belief that a general understanding of its position in this matter will be of advantage to the trade.

Very truly yours, CHAS. L. JOHNSON,

Manager of Sales.

Last season the United States company, for the first time, omitted the announcement of such a sale altogether. The only auction sale last season was that of the Boston Rubber Shoe Co., on November 29. This year, however, it is to be presumed that the policy of the latter company will be in harmony with that of the United States company.

ELECTRICAL RUBBER EXHIBITS.

THE fourth annual convention of the National Association of Municipal Electricians, held last month at Wilmington, Del., was the first to have in connection with it an exhibition of apparatus and material. The result was very satisfactory. The Okonite Co., William R. Brixey, the Standard Under-

ground Cable Co., the Safety Insulated Wire and Cable Co., and the National India Rubber Co. were represented.

EXHIBITION OF RUBBER FIRE SUPPLIES.

SEVERAL rubber concerns were represented in the exhibition of fire apparatus and supplies in connection with the late annual convention of the International Association of Fire Engineers, held at Syracuse, N. Y. The Gutta Percha and Rubber Manufacturing Co., the Eureka Fire Hose Co., the Boston Woven Hose and Rubber Co., the Fabric Fire Hose Co., and the Cornelius Callihan Co. exhibited hose and appliances; the Whitman & Barnes Manufacturing Co. exhibited rubber horseshoes and tires; and the Pneumatic Horse Collar Co., rubber cushioned collars. The Syracuse Rubber Co. exhibited a very complete collection of fire department supplies. The Manhattan Rubber Manufacturing Co. (New York) were also represented at the exhibition, one result of which was an order for 5000 feet of their "Centaur" hose for the fire department of Memphis, Tenn.

AMERICAN BICYCLE CO.—THE BICYCLE "TRUST."

THE stockholders completed a formal organization on August 31, having chosen ten of the fifteen directors who are to form the board. They are *Albert A. Pope*, president of the Pope Manufacturing Co., Boston; *Albert G. Spalding*, of A. G. Spalding & Bros., New York; *R. L. Coleman*, president Western Wheel Works, New York; *J. W. Kiser*, of the Monarch Cycle Manufacturing Co., Chicago; *H. A. Lozier, Sr.*, of the Lozier Manufacturing Co., Cleveland; *Albert Featherstone*, of A. Featherstone & Co., Chicago; *E. C. Stearns*, of E. C. Stearns & Co., Syracuse, N. Y.; *Charles L. Ames*, of the Ames & Frost Co., Chicago; *R. S. Crawford*, of the Crawford Manufacturing Co., Hagerstown, Md.; *R. Philip Gormully*, of the Gormully & Jeffery Manufacturing Co., Chicago. The officers elected are:

ALBERT G. SPALDING, president.
GEORGE W. POPE, first vice president.
J. E. BROMLEY, second vice president.
ARTHUR L. GARFORD, treasurer.
C. W. DICKERSON, secretary.

Mr. Pope has been treasurer of the Pope Manufacturing Co.; Mr. Bromley is the financial partner of Mr. Featherstone; Mr. Garford is at the head of the \$2,000,000 bicycle saddle "trust" which goes into the bicycle combination; Mr. Dickerson is identified with the Sterling Cycle Works. Vice president Pope will serve as general manager, in control of office affairs, while Vice president Bromley will direct the factory operations. The financial details of the organization were given in THE INDIA RUBBER WORLD August 1. The official list of the component companies—forty-four in number—differs from that published in THE INDIA RUBBER WORLD of July 1 only in the omission of the name of the Eagle Manufacturing Bicycle Co. (Torrington, Conn.)

R. B. McMullen, who has long been prominent in the cycle trade, is credited with having in hand a movement to consolidate fifteen or twenty manufacturers, in opposition to the American Bicycle Co. By the way, the status of the rubber tire concerns on which the American Bicycle Co. have options appears not to have been settled definitely, at least in regard to their being taken over by the Rubber Goods Manufacturing Co. It is rumored from Chicago that the Rubber Trust is making an effort to secure a favorable tire contract with the McMullen combination, regardless of what may be accomplished with the American Bicycle Co.

A NEW TRUST COMPANY.

PLANS have been announced for The Industrial Trust Co. of America, with \$100,000,000 capital, by representatives of the rubber, cotton, leather, and other industries, as well as persons identified with financial interests. The purpose is to handle the financial business of large industrial concerns, such as have been accustomed to pay considerable sums in fees to trust companies for handling certain details of their business. The promotion of the scheme is in the hands of Charles R. Flint, of New York.

NOTES ON THE TIRE INDUSTRY.

THE India Rubber Co. (Akron, Ohio) inform THE INDIA RUBBER WORLD: "Last year we manufactured 300,000 bicycle tires, 5000 carriage pneumatics, 2500 automobiles, and 225 tons of solid carriage tires. We have made such changes, improvements, and additions as will enable us to nearly double that amount the coming year." The India Rubber company are embraced in The Rubber Goods Manufacturing Co., and are one of the four companies holding contracts for the manufacture of tires for The Rubber Tire Wheel Co. (now the Consolidated Rubber Tire Co.) during the life of the A. W. Grant patent.

=The American Dunlop Tire Co. (Belleville, N. J.) are experimenting in the automobile tire line, and expect soon to put on the market tires adapted to vehicles weighing 2000 pounds and under.

=The Rubber Tire Co. (Philadelphia), mentioned on another page as manufacturing the "Lattina Cellular tire," are incorporated under New Jersey laws, with \$75,000 capital. William J. Latta is president and Henry M. Dubois secretary and treasurer. Mr. Latta on September 15 resigned the position of general agent of the Pennsylvania railroad, for the purpose, as is understood, of engaging in the electric lighting business. He had been connected with the Pennsylvania company since 1869.

=The Victor Rubber Co. (Springfield, Ohio) have near completion some 25,000 square feet of additional working space, needed for handling tires in quantity, and refer to the arrangement of their factory as second to none for convenience and economical working. They emphasize the fact that the "Victor" solid vehicle tire patent was No. 543,434, granted July 23, 1895, whereas the "Trust" patent was No. 554,675, granted February 18, 1896.

=The Goodyear Rubber Carriage Tire Co. have elected as officers, all of Boston: President, Ferdinand F. French, of the French Carriage Co.; vice president, George J. Quinsler, of Quinsler & Co.; treasurer, Edward P. Sanderson, of the E. P. Sanderson Co., heavy hardware and carriage woodwork; secretary, R. L. Kingston, formerly New England representative of the Goodyear Tire and Rubber Co. (Akron, Ohio.) The company are authorized to do business in the rubber tire vehicle line, handling solid, cushion, and pneumatic tires for vehicles of all kinds.

=The Overman Wheel Co. (Chicopee Falls, Mass.) report that their "Victor" tire plant is at the end of a most prosperous year's business. They say that their contracts indicate a liberal trade for 1900, which they are well prepared to take care of, having a capacity of 10,000 tires per day.

=The Dunlop Tire Co. of Canada, Limited, incorporated last spring with \$1,000,000 capital, on account of their old premises in Toronto having become too small, have purchased a new location—a building 80 x 100 feet, with four stories and basement.

=The Goodyear Tire and Rubber Co. (Akron, Ohio) have published a statement denying a report in a cycle trade journal, that they had become absorbed by the Rubber Goods Manufacturing Co. They say: "The Goodyear Tire and Rubber

Co. has sold out to no one, has never negotiated with any one for the sale of its plant or business, and is seeking no opportunity to do so."

NEW INCORPORATIONS.

ENTERPRISE Rubber Co. (Trenton, N. J.), August 22, under New Jersey laws; capital, \$25,000. Incorporators: George A. Dyson, Edward Openshaw, John D. Carson, and E. H. Openshaw, all of Trenton. The secretary and general manager is E. H. Openshaw, who has been with the Home Rubber Co. (Trenton) for sixteen years. They inform THE INDIA RUBBER WORLD: "We are now manufacturing rubber soles, heels, mats, and other molded specialties. The plant is equipped particularly for this class of work, especially soles, having molds and presses sufficient to turn out 5000 pairs daily. The outlook for a good fall and winter business is very bright, and a number of good contracts have been secured."

=Greenwood Manufacturing Co. (Chicago), August 31, under Illinois laws, to manufacture rubber horseshoes; capital, \$25,000. Incorporators: William W. Wilson, C. O. Trimble, Henry Meltzer.

=The Latimer Rubber Co. (Chicago), under Illinois laws, to manufacture rubber tires; capital, \$200,000. Incorporators: Charles E. Gaylord, Thomas B. McGregor, and Frank G. Howser, all of Chicago.

TRADE NEWS NOTES.

THE factory of the National India Rubber Co. (Bristol, R. I.), is receiving a complete up to date equipment of fire protection apparatus, upon the completion of which it is intended to organize a fire department among the company's employes that will not be excelled in efficiency at any other factory in the country.

=Plans have been filed for a three story brick and iron addition, 112 x 61 feet, to the rubber shoe factory of George Watkinson & Co. (Philadelphia), to cost \$9000. It will be electrically lighted and steam heated.

=The Alden Rubber Co. (Barberton, Ohio) lately awarded a contract for an addition to their factory, 26 x 86 feet, to be used as an engine room, etc.

=The Diamond Rubber Co. (Akron, Ohio) have been licensed, under the corporation laws of Illinois, to do business in that state, with \$15,000 capital invested there.

=Albert P. Funk, who for some time had been assistant treasurer of the La Crosse Rubber Mills Co. (La Crosse, Wis.), has been elected to the offices of secretary and treasurer, vice Louis V. Bennett, resigned.

=A rubber like roofing is something that should appeal to manufacturers of rubber goods, which is in part a possible reason for the covering of the entire plant of the Seamless Rubber Co. (New Haven, Conn.) with the Ruberoid roofing of the Standard Paint Co. Other reasons are its cheapness, durability, and its special fitness for factory wants.

=The Firestone Rubber Tire Co. (No. 367 Wabash avenue, Chicago) are no longer in business under that name. They were a selling agency, handling the Kelly-Springfield tire, and the business has been combined with The Rubber Tire Wheel Co.'s Chicago branch, No. 447 Wabash avenue.

=The Insoloid Fuse Co. (Denver, Colo.) state that the Isabella mine, of Cripple Creek, and Stratton's Independence, of Victor, are using two carloads per year of their "Insoloid" fuse.

=The factory of the Model Rubber Co. (Woonsocket, R. I.) is being built by day's work. The contractors in the town are busy, besides which the directors felt that they could build the structure themselves fully as cheap as they could have it done by contract.

=Horace E. Childs has been appointed general overseer of the boot factory of the Boston Rubber Shoe Co. at Melrose. Ellis H. Rhodes, who held the position for several years, has been transferred to the factory at Malden.

=A petition in bankruptcy has been filed against the Kingsbury Rubber and Supply Co., of Scranton, Pa., who recently made a voluntary assignment, by the Gutta-Percha and Rubber Manufacturing Co., the Vantwoud Rubber Co., and the Good-year Rubber Co.

=“The Rosenthal Rubber Co. of Boston” are still being “forced out by the trust,” as they proved during the past month by renting a store in Baltimore and retailing their “entire stock of men’s, women’s, and children’s mackintoshes” at slaughter prices.

=The rubber workers at Passaic, N. J., were called to meet one evening lately to organize a union, but the meeting had to be postponed because both the factories there were running overtime.

=Kirk W. Magill & Co., stockbrokers in Philadelphia, have been sued by Helen Wright Dickson, who alleges their failure to account to her fully for the proceeds of 150 shares in the United States Rubber Co., and certain other stocks sold by them on her order in 1894. She seeks \$50,000 damages.

=William B. Hamblen, on resigning as a foreman in the Boston Rubber Shoe Co.’s Malden factory, to accept a railway position, received a present from the employés which included a purse of \$150 in gold.

=The Tyer Rubber Co. (Andover, Mass.) are now fitted up for work in hard rubber—both blown and round—and solicit opportunities to make estimates for the trade.

=Rubber goods imported into Spain from Germany since July 1 have had advantage of a special low tariff, which is one of the features involved in the treaty by which Germany became possessed recently of the Caroline islands.

=The importance of the air brake interest—and every air brake involves the use of India-rubber—is indicated by the recent increase of the capital of the New York Air Brake Co. from \$5,000,000 to \$10,000,000.

=It is reported that some prominent citizens of Montreal, Canada, have applied for a charter for an insulated wire and cable company, with \$500,000 capital, to erect a factory in that city. Parties connected with the Canadian Bell Telephone Co. are interested.

=The J. S. Toppan Co., dealers in railway and manufacturers’ supplies, Nos. 77-83 Jackson boulevard, Chicago, have taken the sole western agency for the Voorhees Rubber Manufacturing Co. (Jersey City, N. J.) and will carry a stock of their mechanical rubber goods.

=The India Rubber Co. (Akron, Ohio) are represented in New York city by Mr. D. B. Nally, No. 121 Duane street.

=G. W. Cole & Co., dealers in bicycle sundries, and manufacturers of tire fluids, at No. 141 Broadway, New York, were incorporated on September 1, under New Jersey laws, as the G. W. Cole Co., with \$100,000 capital. Mr. Cole is president and J. N. H. Slee secretary and treasurer. The business was established by Messrs. Cole and Slee in 1894, with \$500 cash capital.

=The Durham Rubber Co. (Bowmanville, Canada), whose business offices are now established at No. 60 Yonge street, Toronto, are doing a good business in their “Durham” rubber heels.

=The Victor Rubber Co., (Springfield, Ohio), it is reported, will increase their capital from \$100,000 to \$1,000,000. Their new building at Snyderville was to be ready by October 1, giving capacity for the employment of 400 more men,

INDIVIDUAL MENTION.

MR. JOHN C. WILLIS, director of the royal botanic garden of Ceylon, and the most prominent advocate of rubber cultivation in the East, while “on leave” this summer visited England, making his headquarters at Kew. He informs THE INDIA RUBBER WORLD that he will return to his post this month.

=In the municipal court at Providence, R. I., guardians have been appointed recently for the persons and estates of the children of John J. Banigan, Patrick T. Banigan, and other members of the Banigan family who are minors. Under the will of the late Joseph Banigan these children are legatees, and the appointment of guardians to manage their estates until they come of age is necessary before the estate of the millionaire rubberman can be divided.

=Mr. John P. Lyons, advertising manager for the United States Rubber Co., contributed to *Printers’ Ink*, for August 16, a readable article on “The Advertising Solicitor,”—every type of which class visits Mr. Lyons’s office many times in the course of a year.

=Mr. and Mrs. Elisha S. Converse celebrated the fifty-sixth anniversary of their marriage with a supper at the Parker House, Boston, attended by members of the family and a few intimate friends, on the evening of September 18. A recent large sized photograph of Mr. Converse, to be seen in the offices of the Boston Rubber Shoe Co., is a strikingly lifelike picture.

=Mr. Benjamin L. Collberg, of Edgeworth, Mass., celebrated his eighty-fourth birthday on September 16. Mr. Collberg came to America from Sweden in 1837 and settled at Malden, Mass., in 1852. In that year he helped to build the first factory of what is now the Boston Rubber Shoe Co., in which he became employed, remaining in the factory until 1888. Their capacity at the beginning was 463 pairs of shoes per day. In 1850 Mr. Collberg married Mrs. Ruth H. Homes, of Salem, Mass., who is still living.

THE “HOOKER” MAY BE SAVED.

THE United States cable ship *Hooker*, which left New York on May 1 with 212 miles of American made submarine cable for the Philippines [see THE INDIA RUBBER WORLD, June 1, 1899], went ashore in Manila bay before half the cable had been laid, and was considered a total loss. Major General Otis recently cabled to Washington, however, that arrangements had been made for getting the *Hooker* off the rocks, and that it was hoped that she could be made as good as new.

AN OPPORTUNITY IN TIRES.

AN opportunity is now offered, which may prove of interest to some American firm, of acquiring the patent rights for the United States for the “Sirdar” tires, solid and pneumatic, for vehicles of all classes. These tires have been well received in Great Britain, where they have been fitted by some leading coachbuilders. The chairman of the board of The Sirdar Rubber Co., Limited, the manufacturers of these tires, is Mr. S. G. Turner, president of the Institute of British Carriage Builders. The tires have been patented also in most of the countries in Europe, as well as in the United States, and the company feel confident of working up a good business. They may be addressed at 36, Duke street, London, E. C.

THE commercial agreement between the United States and Switzerland will terminate on March 1, 1900, after which American exports, including rubber goods, will no longer be privileged. On the other hand, they will be liable to pay heavier duties than goods imported into Switzerland from Germany and Great Britain.

DOES THE "KICKXIA" YIELD RUBBER?

IN connection with the great increase in the rubber production of West Africa within the past few years, and particularly in the output from Lagos, great interest has attached to the announcement that the yield has been obtained largely from trees, whereas formerly the *Landolphia* vines, of several species, were considered as the chief source from which the natives gathered rubber. An important consideration is that, while the vines are likely to be killed by the rubber collectors with the first tapping, by the exercise of a less degree of care the trees may be preserved indefinitely, as is the case with the rubber species of the Amazon valley. Another point is that the *Landolphia* creepers do not give promise of being adapted to cultivation, since they seem to flourish best in the native forests, and could not well be trained in the open. The trees, on the other hand, might reasonably be expected to grow in plantations, giving hope that, in the event of the disappearance of the native growth, it could be replaced by cultivation.

The Lagos rubber tree was promptly identified at Kew as the *Kickxia Africana*, a species known to botanists for half a century, but not suspected to be a rubber producing tree until this property was brought to light, first in the Gold Coast Colony and later in Lagos. Since that time a discussion has been carried on among German botanists as to whether the *Kickxia Africana* really does yield rubber. From what follows it appears probable that there are several species of *Kickxia*, some of which yield rubber while others do not. No fewer than eleven species of *Hevea* have been identified in South America, only two or three of which have proved of value as rubber trees. In *Der Tropenpflanzer* (Berlin), for July, 1899, Professor Dr. Otto Warburg, in a paper on the African rubber plants, says, in relation to the *Kickxia*:

"*Kickxia Africana*, Benthams, of the natural order *Apocynaceae*, has been recognized heretofore as the source of the excellent silk rubber of Lagos [see *Der Tropenpflanzer*, 1897—pp. 37, 102, 292; 1898—p. 201; 1899—p. 65]; but this does not fully decide the question, because it is a fact that the milk of *Kickxia* sent from Kamerun to Berlin was wholly soluble in acetone (according to Dr. Rob. Henriques) and therefore contained no rubber; and the milk sent to Hamburg (according to Dr. Heinrich Traun) proved also worthless, deteriorating even in mixture with the *Landolphia* rubber. Alum and sea salt have (according to Dr. Henri Jumelle) no effect on the milk; alcohol gives a yellowish, acetic acid a whitish, soft sticky rubber; under treatment with ether and afterwards with alcohol a 60 per cent. resinous substance is obtained. According to Aimé Gerard, this substance, entirely soluble in ether, has none of the qualities of genuine rubber. Dr. Preuss was unable in Victoria (Kamerun) to produce rubber from the milk of *Kickxia*. 'By boiling and treatment of the milk with reagents (salt) he always obtained only a stiff, dissolving mass, which was so sticky that only with the greatest effort could it be removed from the fingers; keeping the milk for weeks in a warm place had no better effect; mixing it with double the quantity of cold water did not cause it to solidify at the top, neither was good rubber obtained by boiling the film diluted with water.'

"The Lagos rubber gatherers informed Dr. Paul Preuss that two species of large trees, resembling each other, which existed there, were used in making rubber; they are called 'okeng'

and 'ofuntum.' Only the latter, having leaves resembling those of the Arabian coffee, produced good rubber. In Lagos the milk of both species is mixed in the production of rubber, the 'okeng' milk possessing the characteristic quality of hastening the process of coagulation. The name 'ire' was unknown to the people. Herr Chalot, director of the experimental gardens at Libreville (Gabun), obtained rubber from *Kickxia* milk by the use of heat, as well as by treatment with alcohol, with vinegar, and by evaporation on the filter, but of bad quality, while the Lagos silk rubber is of a very good quality.

"In San Thomé, as in Principe and Fernando Po, where *Kickxia* is plentiful, experiments were made as early as 1882, but the samples sent to Europe in 1885 proved to be sticky and of little value. In San Thomé the tree is known as 'pau cadeira,' or 'po visco.' *Kickxia* varieties exist generally from Sierra Leone to the Congo state, but the only positive assertion that the tree was exploited to any great extent was confined until recently to Lagos; only recently have we learned from Dr. Preuss that the plant yielding the Barombi rubber, of north Kamerun, is also a *Kickxia*.

"As a matter of fact the silk rubber of Lagos has occupied a prominent position in the exports from there for a few years only; near the end of 1894 this rubber was first discovered there (though alleged to have been known on the Gold Coast as early as 1883); in February, 1895, 15,117 pounds, valued at £777, were exported; in October of the same year as much as 1,059,158 pounds, valued at £57,117, were exported. The year 1896 produced even much greater quantities; in 1887 the export of 1895 was not quite reached, and last year the export was much less. The following figures give the total exportation from Lagos:

In 1895.....	2535 tons, valued at	£269,893
In 1896.....	3242 tons, valued at	347,721
In 1897.....	2229 tons, valued at	361,088

"It cannot be stated how much of this was silk rubber. The tapping of the rubber trees in Lagos is done by making incisions in the bark, herring bone fashion, $\frac{1}{4}$ to $\frac{3}{4}$ inch in width, the main channel reaching the inner bark; the milk is caught by placing vessels at the lower end of this main channel. The natives, after filtering the milk, coagulate it by boiling, but the product thus obtained is not very good. Better qualities are produced by a process introduced by the Fantis of the Gold Coast, who place the milk in a hollowed out stump, cover it with palm leaves, and slowly evaporate it for from 12 to 14 days. Rubber obtained by this process brought, in 1894, 10d. to 1s. 2d. per pound, while the boiled rubber sold at 9d. to 12d. on the spot. That the silk rubber of Lagos is highly esteemed is borne out by the fact that 5.60 marks per kilogram is paid for it.

"Dr. Paul Preuss noticed, as far back as 1889, that the natives of the Barombi station on the Elephant lake, on the Kamerun hill, obtained rubber from a large tree, which they felled and cut in pieces a foot in length, gathering the milk in banana leaves, coagulating it by boiling in pots. The general appearance of this tree, with its nearly circular trunk and the grey bark, and growing 200 to 300 meters above the level of the sea, is like the *Kickxia Africana*, only the leaves being slightly different.

"Lieut.-Colonel V. Carnap, in his report of the journey through Kamerun to the Sanga, states that besides the three species of rubber vines, he had found in the southeastern part

of the protectorate two other varieties of trees, in great numbers, which yielded rubber.

"Dr. Preuss, after careful comparison of the herbarium materials in the Berlin botanical museum, obtained the following results: *Kickxia Africana* produces no rubber of value; it is the most abundant species in West Africa, but the milk is used to coagulate or adulterate other kinds of rubber. The good species of *Kickxia* he named *Kickxia elastica*; the Lagos tree, producing silk rubber, is likely a third and different kind; a fourth is found in Liberia.

"... In the center of the Congo state, at Nouvelle Anvers, Stationmaster Hennebert, in N'Gali, discovered near the end of 1896 a tree named 'mundembo,' or 'mandemba,' but not yet identified fully, having leaves like the *Kickxia*, from the milk of which, when diluted with water, he obtained a good quality of rubber, either by boiling or by evaporation. The rubber was valued in Antwerp at from 6.50 to 6.75 francs. Formerly this rubber was unknown by the natives, but it is at present much exploited in the Bangala district, and it is stated that lately its cultivation has been attempted."

MORE RUBBER PRODUCING PLANTS.

WHILE reports continue to come from various localities respecting the wasteful practices of some rubber gatherers in cutting down the trees yielding rubber, the reports are equally numerous of the discovery of plants and trees which can be added to the list of rubber producers. The discovery that the *Kickxia Africana*, though long known to botanists would yield rubber has been of quite recent date—coincident, in fact, with the beginning of the rubber trade in Lagos. Meanwhile additions continue to be made to the list of known species of *Landolphia*—the African rubber vine. Dr. Rob. Henriques, in a catalogue of "Africanische Kautschuk-Sorten," in the *Gummi-Zeitung*, enumerates ten species of *Landolphia*, or a larger number than have yet been described in any single publication.

According to Professor K. Schumann, in the *Notizblatt des Königlichen Botanischen Gartens und Museums zu Berlin* (No. 2, 1899), a kind of rubber is exploited, principally from the southern part of east Africa, which at Zanzibar goes under the name of "mgoa" rubber. From specimens of the flowers sent by Dr. Stuhlmann to the botanical central station, the plant producing this rubber has been classified in the natural order *Apocynaceae* and named the *Macarenhasia elastica*.

Henry Jumelle, who has published in Paris a work on "Les Plantes à Caoutchouc et à Gutta dans les Colonies Françaises," contributes to the French Academy of Sciences a note on the "guidora," a tree found in Madagascar, which he regards as worthy of consideration as a rubber producing tree. It has been designated as the *Mascarenhasia velutina*. He refers to the tree described by Dr. Schumann, mentioned above, as belonging to the same family. There is still another rubber-producing species found in Madagascar, called by the natives the "rumiranj," and known to botanists as the *Mascarenhasia utilis*.

Professor Jumelle has more recently contributed to the *Revue des Cultures Coloniales* a description of the "lombiro" vine, found in Madagascar, which he classes as a rubber producing vine. It has been identified, botanically, as the *Cryptostegia Madagascariensis*. The latter journal has also published lately some reports regarding the "gohine" vine, which a government botanist, visiting the Soudan, has found to yield rubber. But of greater importance than any other single item in this connection is a discovery reported on another page.

MOLDING LIQUID RUBBER (?)

THE following newspaper clipping comes to THE INDIA RUBBER WORLD from Latta & Mulconroy, rubber merchants in Philadelphia, who evidently have an eye for the ridiculous paragraphs to be met with in reading:

LIQUID RUBBER.

TO THE EDITOR OF THE BULLETIN—Sir: How can one make rubber in a liquid state, so as it can be run in a mold? G. A. D.

[It is said that rubber can be liquefied by shaving a piece of the crude product in small particles into a bottle and pouring ether upon it. In this form it might not run successfully into a mold, but it is worth trying.]

While it is amusing, the advice given by the Philadelphia journalist has also its serious side—very serious, if it were followed, for such a solution used in a mold would be likely to blow mold and experimenter into the next county.

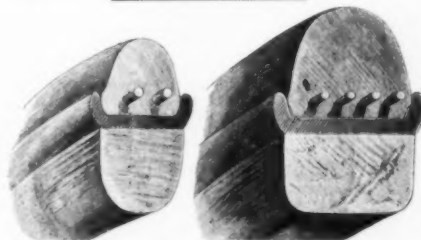
THOUGHT THAT HE HAD A RUBBER MINE.

THE representative of a syndicate owning a vast area of rubber mines somewhere in the west has been trying to sell the property in Denver, Col. He had samples of the product with him—"chunks of a kind of asphaltum, a sort of coal tar deposit often found near coal beds," says the *Denver Times*—and in good faith exhibited them as India-rubber. He was much astonished to learn from Mr. E. W. Gramlich, who represents the Omaha house of Z. T. Lindsey in Denver, that real India-rubber is obtained only from trees.

NEW RUBBER PACKINGS IN EUROPE.

ACCORDING to a contemporary in Europe, Eugen Hornung and Stefan Hansel, of Vienna, propose to prevent the hardening of vulcanized rubber, which affects packings in particular, in the following manner. Before vulcanization the rubber is mixed with insoluble glue and vulcanized oil. This latter suggestion is not new, but the oil alone cannot prevent the rubber from turning brittle. An aqueous solution of glue is precipitated with tannine, alum, etc.; the oil is stirred with benzine, turpentine, or some other hydrocarbon. This mixture is dried until it has become a plastic mass, which is then well kneaded into the India-rubber or Gutta-percha. This may prove an important invention.

The stuffing-boxes of C. Endenweich, of Berlin, need not contain any rubber. He places a large number of very thin metallic foils obliquely to the respective piston. Layers of paper, cloth, etc., may alternate with the metal. The steam or water would have access to the chamber and render the packing absolutely tight. This may constitute a saving in power over ordinary packings, which introduce considerable friction, but thin foils are not likely to last long in a damp chamber.



A NEW VEHICLE TIRE FASTENING.

[Four longitudinal wires, used by the Consolidated Rubber Tire Co., in the Kelly-Springfield tire, mentioned in THE INDIA RUBBER WORLD, September 1, 1899.]

RUBBER AND REVENUE IN BRAZIL.

THE governor of the state of Pará—Dr. José Paes do Carvalho—in two official messages transmitted recently to the legislative congress, dwelt at length upon the economic and industrial conditions of the state and the efforts at improvement now under way. Before the rubber trade gained such importance agriculture flourished in the state, even if under primitive conditions, but now the sole dependence for food is upon foreign markets. The superior profits of rubber gathering have led to the stagnation of all other interests. The state has made appropriations for the encouragement of agriculture, for the establishment of factories of a character to consume agricultural products, for the encouragement of agricultural immigration, and for industrial schools, in all of which lines the governor hopes for success. The further development of navigation is also urged upon the legislature, particularly on streams not yet fully explored. It is suggested that means should be taken for advertising the country's natural resources at the Paris Exposition of 1900.

The subject of taxation, as bearing upon the industrial situation, is also considered. The governor favors the gradual introduction of land taxes, a system of license fees on various kinds of business, and so on, in order that the chief burdens of providing a public revenue may not continue to fall upon exports, thereby serving to hamper the development of the latter. He favors the removal from the municipalities of the power to impose taxes on exports, and the undertaking by the state of levying all taxes of this character, a certain share to be distributed to the local authorities, to the end that more uniformity in taxation may be attained. He would expect an increase in revenues from other sources, however, allowing for a decrease in export duties within a few years. For the present he would place the extra duty to be collected by the state upon rubber, "because it is the only product which can support further taxation without serious loss to producers."

AN ANTI-UNITED STATES SCARE.

THERE was a period when the governments of both Bolivia and Brazil imposed export duties on rubber collected from the disputed territory. A newspaper in Pará now asserts that it held in its possession official correspondence between a former Bolivian envoy—Don José Paravicini—and the United States consul at Pará, the tenor of which was that this country would protect and aid Bolivia in case of war and generally back up Bolivian pretensions to the disputed territory. In exchange, products of the United States were to be exempt from payment of import duties, and preferential duties one-fourth of these for other countries were to be levied on rubber shipped to the United States; besides the cession of the disputed territory to the United States as reward for assistance should there be war.

The Brazilian Review pronounced the whole matter "too absurd to merit serious consideration." It caused great excitement in Rio de Janeiro, however, even in the federal congress. The *Review* says that, for commercial reasons alone, the European powers would never consent to the United States or any one else controlling the Amazon and closing the "open door." The *Review* sees, in certain manifestations in South America, a feeling on part of many people that the United States have abandoned their traditions and that "the fate of Cuba and the Philippines to-day may be that of the Amazon to-morrow." The possibility of the control of the great rubber trade seems to those people enough to tempt a foreign power to invade the Amazon valley.

THE ENTERPRISING CEARENSSES.

IN spite of periodical droughts in Ceará, writes a correspon-

dent of the *South American Journal*, the state is fairly prosperous, always managing to have a surplus. It is expected that the condition of the country will now improve, owing to the interest that is being taken in the native rubber tree (manicoba), the cultivation of which is beginning on a large scale. "The last great drought was in 1877-79, when over 150,000 Cearenses emigrated to Pará, and it is solely due to their superior intelligence and activity that the northern states are so well off; in fact these people were the first to open up the Purus, Acre, Javary, and other large rivers to traffic. Last year was an exceptionally dry one, and nearly 60,000 persons left the state. This year is already the wettest of the century, having already given us over seven feet of rainfall."

THE ANCIENT DISCUSSION REVIVED.

WHETHER or not rubber is absolutely waterproof has often been discussed and those who know by practical experience willingly allow that the gum particularly in its crude state can take up a deal of water. In reply to the somewhat startling heading "Is rubber waterproof?" the *Scientific American Supplement* says: "The answer is decidedly 'No,' although many people would not hesitate to reply: 'Yes, of course.' We speak of unvulcanized rubber. Since the rubber has to be dried to be freed of its moisture, we may *a priori* conclude that it will absorb moisture again. According to experiments mentioned in by E. Shultz in the *Gummi Zeitung*, it does so with a certain rapidity. Rolled rubber plates, which by virtue of their treatment are in a somewhat compressed condition, absorb from 8 to 35 per cent. of water in two hours, when the water is heated to about 120 degrees Fahrenheit. At increased pressure, the absorption takes place much more readily; a piece of rubber kept in a cylinder under a pressure of 140 pounds, absorbed 25 per cent. of water in five minutes. Oils, of course, stop the water. Vulcanized rubber remains dry, but not entirely so, and badly vulcanized goods deteriorate quickly owing to this reason. Schultz kept a plate of the best Pará rubber in water at a temperature not exceeding 110 degrees Fahrenheit. After two months and a half the rubber had become a hopeless, smeary mass. We see how badly moisture affects rubber at temperatures such as may occur in our climate, and we understand once more how much the raw material may suffer during transport. The transport may indeed have more to do with the condition and quality of the rubber than the origin. The percentage of water should be ascertained, as the quantity of the sulphur and other ingredients which we admix to the rubber should be settled according to the percentage of dry rubber. It was reported as a curiosity some years ago that a rubber bottle filled with water would gradually become empty. We all know that rubber turns whitish when long in contact with water, but the real significance of the fact is hardly recognized."

KILLED WHILE HUNTING RUBBER.

THE secretary of state at Washington has received intelligence of the massacre by Sinas Indians of the persons composing an expedition ascending the Xingu river. The expedition was headed by an American company in connection with the rubber business. There were three Americans and three Englishmen in the party, and the remainder are supposed to have been Brazilians. The name of only one of the Americans is given—Brownley, a native of California. The news reached Washington through representatives of the Belgian government.

INDIA-RUBBER MISCELLANY.

THE British consul at Lourenço Marques, East Africa, mentions "canvas covered India-rubber hose, of various sizes," among the articles imported from America for which there is a good market in that district.

THE Deutsch-Ostafrikanische Gummi-Handels- und Plantagen-Gesellschaft (German-East African Rubber Commercial and Plantation Co.) has been organized in Berlin, with the sanction of the government, to buy and improve land in German East Africa, and especially to trade in rubber and establish rubber plantations. The capital is 150,000 marks (= \$35,700).

THE South Cameroon Co., operating in the rubber trade in the German Congo, have obtained the services, as director, of Mr. Langheld, who for nine years was connected with the rubber interests of the Société Anonyme Belge, in the Congo Free State. The company have obtained important concessions, and are in favor with the German colonial minister. The existence of immense tracts is reported in the Cameroons.

DURING 1898 there were distributed from the Singapore botanic gardens 98,650 seeds and 10,650 plants of the Pará rubber species (*Hevea Brasiliensis*), the greater part of which were for planting in Selangor.

THE *Pharmaceutical Post* gives a method for what it calls the preparation of rubber from the leaves of trees. Unfortunately the process quoted is that which is used in the production of green Gutta-percha, and that has not been proved successful in extracting rubber.

THE largest shipment of India-rubber ever received at Liverpool arrived on April 22 from the Congo, the total amount being 430 tons. Two hundred and fifty tons were from the private estate of the king of Belgium; 130 tons from the agents of the Société Anversoise du Commerce du Congo; from the Société du Haut Congo 35 tons, etc.

THE Amazon Steam Navigation Co., Limited, earned 4 per cent. on their capital during the past fiscal year. They report a better business than during the preceding year. They have obtained permission from the Brazilian government permission to increase their charges, to take effect June 1 last, and they hope to do better this year. They will give orders soon for two additional steamers, larger and faster than those they now employ on the Amazon.

REPRESENTATIVES of the Amazon Telegraph Co., Limited, have called upon Signor Marconi, in London, to consider the subject of "wireless telegraphy," owing to the great difficulty in maintaining communication by cable between Pará and Manáos.

GUTTA-PERCHA waste is an important item of trade in Great Britain. The postoffice department, which in that country has control of the telegraphs, recently invited bids for 40 tons of such waste, being the insulation on discarded telegraph lines.

CHIEF ROBERTS, of the fire department of Denver, Col., has addressed a letter to the board of fire commissioners in regard to the "dilapidated condition of the largest portion of the fire hose now in use in this department and the urgent necessity of immediately purchasing not less than 5000 feet of new hose." He says that the department has not more than 3000 feet of hose in first class condition, and the bursting of hose at fires is a common occurrence. At a recent fire four lengths of hose burst at 75 pounds pressure and at another fire three lengths gave away at 50 pounds pressure.

SOME Canadian shoe retailers having complained of the advance this season in rubber footwear, the *Canadian Shoe and Leather Journal* publishes some figures to show that such goods are still cheaper in the Dominion than the United States—by from 5 to 10 cents per pair for shoes, with a still wider difference in the case of boots. "With a duty added to still further enhance the cost," says the *Journal*, "Canadian manufacturers do not anticipate many pairs of American made rubbers being sold in Canada this year."

CONSUL NUSBAUM, at Munich, writes: "Rubber shoes of Russia manufacture have crowded almost all others out of this market, those of home [German] manufacture being represented by dealers in the article as of inferior quality. It seems to be generally believed, that the acknowledged excellence of American rubbers is not sufficient to compensate for their additional cost when put on the market here. Nevertheless, I am by no means sure that the introduction of the American article, in the hands of an enterprising importer, could not be made a remunerative experiment."

THE new style of ambulance vehicles introduced into Stuttgart, Germany, have no upholstery, but are provided with very thick rubber matting for the seats and floor.

PEGAMOID.—It is reported in the German press that the new material, pegamoid, has been used largely in fitting up the smoking saloon of the Hamburg-American liner *Patricia*, now building at the Vulcan yards at Stettin.

RUBBER SHOE HEELS.—"The use of rubber heels is prevalent, especially on men's shoes," says *Shoe and Leather Reporter*. "This is quite an added expense, too. At first it is hard to get over the idea that one is wearing rubbers. One does not make much noise and feels less important. The putting on of rubber heels is all custom work; they are never put on at the factories unless for accommodation."

O'SULLIVAN RUBBER CO.

THE O'Sullivan Rubber Co. (Lowell, Mass.), owning and manufacturing the O'Sullivan rubber heel and sole patents, have been incorporated, with James O'Sullivan president, Humphrey O'Sullivan treasurer, and J. Munn Andrews secretary and manager. The regular shoe business of the firm will continue to be operated under the style of O'Sullivan Brothers.

RUBBER GOODS MANUFACTURING CO.

THE general decline in industrial stocks during the month was shared by the Rubber Goods Manufacturing Co.'s issues. The lowest prices reached were 83 for preferred and 30 for common. On September 23 about 500 shares of preferred sold in the morning at 86, after which 87 was quoted. A hundred shares of common sold on the same date at 31. The second quarterly dividend of 1¼ per cent. on the preferred shares was paid on September 15.

AFFAIRS AT SETAUKET.

A RECENT report was to the effect that interests connected with Richard Croker's Auto-Truck Co. had purchased the factory of the Empire State Rubber Co., at Setauket, L. I. In answer to an inquiry Joseph W. Elberson informs THE INDIA RUBBER WORLD that nothing has yet been concluded in that direction. Smith W. Conklin, receiver of the North American Rubber Co., one of the Setauket enterprises, recently offered at public sale the personal assets of that company, including bills receivable, notes, etc., listed at about \$13,000. The amount realized was \$50.

ADDITIONAL TRADE NOTES.

WEBSTER NORRIS, chemist, and assistant superintendent of the Gutta-Percha and Rubber Manufacturing Co. (New York), has accepted a position as superintendent of the rubber goods department of the Canadian Rubber Co. (Montreal). Mr. Norris is particularly well fitted, both by education and experience for this work and the good wishes of his many friends in the State go with him.

=Mr. J. F. Ives, manager of the International Automobile and Vehicle Tire Co.'s department at Cleveland, Ohio, and a well-known expert in tires is perfecting a machine for the manufacture of thread tires.

=Mr. A. H. Alden, of the New York Commercial Co., has engaged the ocean going tug, Munyon, in which to attend the yacht races of October 4-6. He has invited for guests at that time the leading men in the rubber trade, and is sure to entertain them with that hospitality and good-fellowship for which he is famous.

=The Saylor Rubber Co., who fitted up a plant in Franklin, Mass., for reclaiming the fibrous wastes from reclaimed rubber, have decided to give up the business and their plant is for sale.

=The Concord Rubber Co. have their machinery nearly all in position and as soon as their rope drive is installed, will start that wheels. They probably will be washing rubber by October 5.

REVIEW OF THE CRUDE RUBBER MARKET.

PRICES have stiffened slightly since our report one month ago. There has been a good demand from manufacturers. The same conditions are reported from Europe. Up to date receipts at Pará have been less than for the same period last year, which will have an effect in preventing a decline in prices at this time.

From a Pará correspondent, September 6: "In spite of rather weaker news from consuming centers, the market now presents quite a healthy aspect, and with gradually increasing supplies, improved demand, and easier exchange, more general activity has been developed. If, however, the amount of business transacted does not make a bigger show, the fault seems to be only with the entries, which, though growing, have not yet reached the extent to fully satisfy the existing demand. As steam communication with the distant rubber districts is continually improving, the produce will probably come to market earlier and in larger quantities than in former years, but notwithstanding such facilities, the supplies will continue on a moderate scale until October."

The latest quotations in the New York market are:

PARÁ.		AFRICAN.	
Islands, fine, new....	99 @100	Tongues.....	61 @62
Islands, fine, old....	none here	Sierra Leone.....	52 @78
Upriver, fine, new....	104 @105	Benguella.....	76 @77
Upriver, fine, old....	105 @106	Congo ball.....	62 @63
Islands, coarse, new....	63 @64	Cameroon ball.....	62 @63
Islands, coarse, old....	none here	Flake and lumps.....	47 @50
Upriver, coarse, new....	81 @82	Accra flake.....	23 @24
Upriver, coarse, old....	83 @84	Accra buttons.....	67 @68
Caucho (Peruvian) sheet	64 @64	Accra strips.....	70 @71
Caucho (Peruvian) strip	none imported now.	Lagos buttons.....	67 @68
Caucho (Peruvian) ball	75 @76	Lagos strips.....	69 @70
CENTRALS.		Liberian flake.....	@
Esmeralda, sausage....	72 @73	Madagascar, pinky....	84 @85
Guayaquil, strip.....	57 @62	Madagascar, black....	59 @60
Nicaragua, scrap....	69 @70	GUTTA-PERCHA.	
Mangabeira, sheet....	62 @63	Fine grade.....	1.50
EAST INDIAN.		Medium.....	1.30
Assam.....	79 @82	Hard white.....	1.00
Borneo.....	39 @54	Lower sorts.....	50
		Balata.....	

Late Pará cables quote:

	Per Kilo		Per Kilo.
Islands, fine	98600	Upriver, fine....	118300
Islands, coarse	58300	Upriver, coarse....	88300
Exchange 7 1/2.			

NEW YORK RUBBER PRICES FOR JULY.

	1899.	1898.	1897.
Upriver fine	@1.02	95 @1.05	84 @86
Upriver coarse.....	78 @80	80 @88	55 @56
Islands fine	95 @98	95 1/2 @1.02	82 @84
Islands coarse.....	64 @66	64 1/2 @68	46 1/2 @48
Cametá coarse.....	64 @68	71 @75	56 @58

NEW YORK RUBBER PRICES FOR AUGUST.

	1899.	1898.	1897.
Upriver fine.....	1.00 @1.03	1.03 @1.06	86 1/2 @88
Upriver coarse.....	77 @79	80 @89	57 @60
Islands fine.....	95 @97	1.00 @1.03	84 @86 1/2
Islands coarse.....	62 @66	68 @72	49 @50
Cametá coarse.....	62 1/2 @66	74 @75	56 @58

STATISTICS OF PARA RUBBER (METRIC TONS).

NEW YORK.		PARÁ.		ENGLAND.	
		Fine and Medium.	Coarse.	Totals.	Totals.
		1899.	1898.	1899.	1898.
Stocks, July 31.....	250	101	351	55	312
Arrivals, August.....	352	174	526	567	639
Aggregating.....	602	275	877	622	951
Deliveries, August.....	390	174	564	534	735
Stocks, August 31....	212	101	313	88	216
PARÁ.					
		1899.	1898.	1897.	
Stocks, July 31.....	260	135	210	670	515
Arrivals, August....	1010	1380	1140	1245	455
Aggregating.....	1270	1515	1350	1915	970
Deliveries, August....	575	1165	1010	1560	490
Stocks, August 31.	605	350	340	355	480

	1899.	1898.	1897.
World's supply, Aug. 31 (excluding Caucho)...	1697	1488	1697
Pará receipts, July 1 to August 31.....	2295	2510	2110
Afloat from Pará to United States, August 31.	185		
Afloat from Pará to Europe, August 31.....	420	570	

In regard to the financial situation, Albert B. Beers (broker in India-rubber and commercial paper, No. 58 William street, New York) advises us as follows:

"During the early part of September the money market ruled easy, with rates for paper about the same as in August, viz.: 4@5 per cent. for the best rubber names, and 5 1/2@6 per cent. for those not so well known, but for the last two weeks of the month the money market has been very much firmer, and the rates for paper have advanced to 5@5 1/2 per cent. for the best names, and 6 per cent. and above for others."

BALATA IN DUTCH GUIANA.

THE latest mail received from Surinam, dated August 12, contains the following:

"Balata.—Among those who have suffered loss through the great drought this year, the gatherer of Balata takes the front rank. We learn that whole bands of laborers, who were sent from Berbice to Nickerie to gather Balata, have, after months of waiting, returned to their starting place without being able to earn anything worth mentioning during that time. We fear

that the Balata industry can with difficulty stand this loss, as it was already in a deplorable state through the low prices. The drought which has set in threatens to be dreadful. The loss caused to the planters can hardly be estimated."

WEISE & CO.

Rotterdam, September 6, 1899.

IMPORTS FROM PARA AT NEW YORK.

[The figures denote weight in Pounds.]

August 28.—By the steamer *Polycarp*, from Pará:

IMPORTERS.	Fine.	Medium.	Coarse.	Cauchó.	Total.
New York Commercial Co.	127,500	25,300	52,500	.....	205,300
Albert T. Morse & Co.	35,300	3,000	54,900	.....	93,200
Reimers & Meyer.....	27,100	3,200	42,900	.....	73,200
Lawrence Johnson & Co.	2,500	1,100	1,800	.....	5,400
George G. Cowl.....	7,900	1,400	6,600	.....	15,900
Crude Rubber Co.....	3,600	1,100	2,000	.....	6,700

Total... 203,900 35,100 160,700 399,700

September 5.—By the steamer *Cametense*, from Manáos and Pará:

Reimers & Meyer.....	65,300	3,900	30,500	.....	99,700
Albert T. Morse & Co.	48,000	1,100	45,800	.....	94,900

PARA RUBBER VIA EUROPE.

AUG. 24.—By the *Etruria*=Liverpool:

George A. Alden & Co. (Fine).....	9,400
Crude Rubber Co. (Fine).....	9,400 18,800

AUG. 28.—By the *La Touraine*=Havre:

George A. Alden & Co. (Fine).....	14,000
Crude Rubber Co. (Fine).....	14,000 28,000

AUG. 30.—By the *Teutonic*=Liverpool:

Reimers & Meyer (Fine).....	11,300
George A. Alden & Co. (Fine).....	2,400
Crude Rubber Co. (Fine).....	2,400 16,100

SEPT. 7.—By the *Germania*=Liverpool:

George A. Alden & Co. (Cauchó).....	8,300
Crude Rubber Co. (Cauchó).....	8,200 16,500

SEPT. 11.—By the *La Gascogne*=Havre:

George A. Alden & Co. (Cauchó).....	136,000
Crude Rubber Co. (Cauchó).....	127,500 263,500

SEPT. 18.—By the *Lucania*=Liverpool:

George A. Alden & Co. (Fine).....	23,000
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SEPT. 21.—By the *Majestic*=Liverpool:

George A. Alden & Co. (Fine).....	14,000
Crude Rubber Co. (Fine).....	14,000 28,000

OTHER ARRIVALS AT NEW YORK.

CENTRALS.

AUG. 25.—By the *Alliance*=Colon:

Hirzel, Feltman & Co.....	13,996
Isaac Brandon & Bros.....	7,549
G. Amsinck & Co.....	5,663
Frame, Alston & Co.....	3,645
Flint, Eddy & Co.....	2,885
M. Valverde & Co.....	2,540
Roldan & Van Sickle.....	1,440
Lanman & Kemp.....	1,425
Jones & Townsend.....	457 39,600

AUG. 25.—By the *Sonca*=Mexico:

H. Marquardt & Co.....	1,200
Thebaud Brothers.....	600
E. N. Tibbals.....	400 2,200

AUG. 28.—By the *Meraba*=London:

Reimers & Meyer.....	5,000
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AUG. 28.—By the *Ardanhu*=Mexico:

L. N. Chemedlin & Co.....	4,000
H. Marquardt & Co.....	200 4,200

AUG. 28.—By the *Altai*=Greytown:

A. P. Strout.....	6,000
Andreas & Co.....	3,500
Kunhardt & Co.....	6,200
Punderford & Co.....	1,000
Samper & Co.....	1,000
John Boyd, Jr., & Co.....	1,200
A. N. Rotholz.....	1,200
Jimenez & Escobar.....	400
G. Amsinck & Co.....	900
Munoz & Espriella.....	100
Mecke & Co.....	100
For Antwerp.....	400 21,600

AUG. 30.—By the *Advance*=Colon:

G. Amsinck & Co.....	4,502
W. R. Grace & Co.....	3,206
Dumarest & Co.....	3,304
Roldan & Van Sickle.....	4,074
Czarnikow, McDougall & Co.....	2,562
A. P. Strout.....	4,405
Lanman & Kemp.....	2,645
Hirzel, Feltman & Co.....	1,554
A. M. Capen Sons.....	947
F. Nieto & Co.....	1,083
Elmenhorst & Co.....	786
W. Loalza & Co.....	1,102
Flint, Eddy & Co.....	1,403
Lazard Freres.....	568
Pomares & Cushman.....	484
Kunhardt & Co.....	705
J. Aparicio & Co.....	821
Ascensio & Cassio.....	275 34,300

SEPT. 5.—By the *Louisiana*=New Orleans:

A. T. Morse & Co.....	3,000
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SEPT. 5.—By the *Adirondack*=Cartagena:

D. A. De Lima & Co.....	28,000
Kunhardt & Co.....	2,000
John Woyd, Jr., & Co.....	1,000
Munoz & Espriella.....	600
Samper & Co.....	500
G. Amsinck & Co.....	500 32,600

SEPT. 5.—By the *Vigilancia*=Mexico:

E. Steiger & Co.....	1,000
Thebaud Brothers.....	700 1,700

SEPT. 5.—By the *El Sud*=New Orleans:

A. T. Morse & Co.....	7,000
Eggers & Heinlein.....	500
T. N. Morgan.....	500 8,000

SEPT. 6.—By the *Finance*=Colon:

A. Santos & Co.....	5,404
Isaac Brandon & Bros.....	5,225
Hirzel, Feltman & Co.....	3,483
Flint, Eddy & Co.....	2,740
Frame Alston & Co.....	2,248
Roldan & Van Sickle.....	2,220
Czarnikow, McDougall & Co.....	1,820
W. R. Grace & Co.....	380 23,500

SEPT. 6.—By the *Servia*=Liverpool:

Otto G. Mayer & Co.....	4,100
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SEPT. 8.—By the *Seguranca*=Mexico:

H. Marquardt & Co.....	2,600
P. Harmony Nephews & Co.....	1,000
F. Probst & Co.....	200
E. N. Tibbals.....	200 3,400

SEPT. 9.—By the *Pretoria*=Hamburg:

Livesey & Co.....	1,500
Reimers & Meyer.....	4,400 5,900

SEPT. 12.—By the *Alene*=Greytown:

A. P. Strout.....	5,500
G. Amsinck & Co.....	2,600
Munoz & Espriella.....	1,200
Punderford & Co.....	700
Park, Son & Co.....	700
A. D. Straus & Co.....	600
Mecke & Co.....	300
Roldan & Van Sickle.....	200 11,800

New York Commercial Co.	49,600	9,300	14,100	3,400=	76,400
George G. Cowl.....	21,100	700	8,300	.....=	30,100
Lawrence Johnson & Co.	13,100	2,600	7,000	.....=	22,700
William Wright & Co.....	7,500	400	4,800	.....=	12,700
Crude Rubber Co.....	1,800	.....	10,500	.....=	12,300
Edmund Reeks & Co.....	4,600	900	1,800	.....=	7,300
Otto G. Mayer & Co.....	.....	.....	5,100	.....=	5,100
Hagemeyer & Brunn.....	2,100	.....	600	.....=	2,700
Kunhardt & Co.....	1,900	900	.....	.....=	2,800

Total... 215,000 19,800 128,500 3,400= 366,700

September 19.—By the steamer *Amazonense*, from Pará:

New York Commercial Co.	83,200	28,600	59,000	4,300=	175,100
Crude Rubber Co.....	86,400	29,300	24,900	.....=	140,600
Reimers & Meyer.....	73,500	39,600	49,000	1,600=	163,700
Albert T. Morse & Co.....	14,000	6,700	65,700	2,000=	88,400
Edmund Reeks & Co.....	16,800	2,100	4,700	.....=	23,600
Otto G. Mayer & Co.....	3,700	700	5,300	.....=	9,700
George G. Cowl.....	.....	.....	5,400	.....=	5,400

Total... 277,600 107,000 214,000 7,900= 606,500

[NOTE.—The steamer *Maranhense* sailed from Pará, on September 14, with 194 tons of rubber for New York, and was due on September 26.]SEPT. 15.—By the *Fucatan*=Mexico:

Flint, Eddy & Co.....	2,500
H. Marquardt & Co.....	600
E. Steiger & Co.....	200 3,200

SEPT. 14.—By the *Athos*=Colon:

Dumarest & Co.....	7,280
Crude Rubber Co.....	4,006
G. Amsinck & Co.....	3,914
A. M. Capen Sons.....	2,665
Lanman & Kemp.....	1,782
A. Santos & Co.....	1,040
Flint, Eddy & Co.....	878
R. F. Cornwell.....	711
Hirzel, Feltman & Co.....	344 22,600

SEPT. 16.—By the *St. Louis*=Southampton:

Reimers & Meyer.....	2,500
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SEPT. 18.—By the *Themis*=Belize:

Eggers & Heinlein.....	8,500
Meyer & Lange.....	1,500
A. S. Lascelles & Co.....	1,500 11,500

SEPT. 19.—By the *El Dorado*=New Orleans:

A. T. Morse & Co.....	3,000
A. N. Rotholz.....	2,000 5,000

SEPT. 19.—By the *Alleghany*=Cartagena:

Roldan & Van Sickle.....	3,000
J. Ferro.....	2,500
Richard Alence.....	2,500
Flint, Eddy & Co.....	1,500
For London.....	1,200
Guterman, Rosenfeld & Co.....	500 11,200

AFRICANS.

AUG. 24.—By the *Pennsylvania*=Hamburg:

George A. Alden & Co.....	21,200
Livesey & Co.....	6,300 27,500

AUG. 26.—By the *Etruria*=Liverpool:

George A. Alden & Co.....	7,500
Crude Rubber Co.....	7,500
Otto G. Mayer & Co.....	9,400
Livesey & Co.....	4,100 28,500

AUG. 28.—By the *St. Andrew*=Antwerp:

A. T. Morse & Co.....	3,500
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AUG. 30.—By the *Teutonic*=Liverpool:

Otto G. Mayer & Co.....	13,800
Livesey & Co.....	11,400 25,200

SEPT. 2.—By the *Campania*=Liverpool:

Otto G. Mayer & Co.....	23,200
Reimers & Meyer.....	31,400
George A. Alden & Co.....	4,200
Crude Rubber Co.....	4,600 63,800

SEPT. 5.—By the *Georgia*=Liverpool:

A. T. Morse & Co.....	11,100
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SEPT. 7.—By the *Germania*=Liverpool:

Otto G. Mayer & Co.....	22,300
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SEPT. 6.—By the *Servia*=Liverpool:

Otto G. Mayer & Co.....	8,000
Livesey & Co.....	24,000
Reimers & Meyer.....	9,000 41,000

SEPT. 9.—By the *Pretoria*=Hamburg:

Albert T. Morse & Co.....	58,300
Reimers & Meyer.....	7,900 45,800

SEPT. 11.—By the <i>Umbria</i> =Liverpool:		
George A. Alden & Co.	16,700	
Crude Rubber Co.	16,700	
Otto G. Mayer & Co.	3,900	37,300
SEPT. 11.—By the <i>New York</i> =Southampton:		
Reimers & Meyer	2,000	
SEPT. 11.—By the <i>Maasdam</i> =Rotterdam:		
Albert T. Morse & Co.	22,000	
SEPT. 12.—By the <i>Kensington</i> =Antwerp:		
Reimers & Meyer	22,000	
SEPT. 13.—By the <i>Patria</i> =Hamburg:		
George A. Alden & Co.	14,000	
Crude Rubber Co.	10,000	
Livesey & Co.	1,300	35,200
SEPT. 14.—By the <i>St. Cuthbert</i> =Antwerp:		
Albert T. Morse & Co.	37,000	
SEPT. 15.—By the <i>Lucania</i> =Liverpool:		
George A. Alden & Co.	33,000	
Crude Rubber Co.	32,000	
William Wright & Co.	33,000	
Livesey & Co.	11,300	
Reimers & Meyer	8,100	117,400
SEPT. 19.—By the <i>Spaarnadam</i> =Rotterdam:		
Albert T. Morse & Co.	11,000	
SEPT. 20.—By the <i>Noordland</i> =Antwerp:		
George A. Alden & Co.	57,500	
Crude Rubber Co.	57,000	
Reimers & Meyer	5,000	119,500
SEPT. 21.—By the <i>Majestic</i> =Liverpool:		
George A. Alden & Co.	25,000	
Crude Rubber Co.	25,000	50,000
SEPT. 21.—By the <i>Aurania</i> =Liverpool:		
George A. Alden & Co.	22,000	
Crude Rubber Co.	22,000	
William Wright & Co.	11,000	
Reimers & Meyer	7,000	62,000

EAST INDIAN.

AUG. 26.—By the <i>Macduff</i> =Singapore:		
Reimers & Meyer (Pontianak)	427,400	
J. W. Greene & Co. (Pontianak)	225,000	
George A. Alden & Co. (Pontianak)	56,000	709,400
AUG. 28.—By the <i>Ethiopia</i> =Glasgow:		
Reimers & Meyer (Assam)	2,200	
SEPT. 2.—By the <i>Hucros</i> =Calcutta:		
George A. Alden & Co. (Assam)	16,000	
Reimers & Meyer (Assam)	17,000	33,000
SEPT. 8.—By the <i>Afridi</i> =Singapore:		
George A. Alden & Co. (Pontianak)	165,000	
J. W. Greene & Co. (Pontianak)	36,600	
D. P. Cruikshank (Borneo)	10,000	212,600
SEPT. 11.—By the <i>New York</i> =Southampton:		
Reimers & Meyer (Rangoon)	2,500	

SEPT. 13.—By the <i>Oceanic</i> =Liverpool:		
Reimers & Meyer (Rangoon)	18,000	
SEPT. 19.—By the <i>Dicks Rickmers</i> =Singapore:		
Reimers & Meyer (Pontianak)	540,000	
J. W. Greene & Co. (Pontianak)	60,000	
Reimers & Meyer (Borneo)	14,000	614,000
SEPT. 20.—By the <i>Vortigern</i> =Singapore:		
George A. Alden Co. (Pontianak)	522,000	
Reimers & Meyer (Pontianak)	230,000	752,000

GUTTA-PERCHA AND BALATA.

AUG. 26.—By the <i>Macduff</i> =Singapore:		
Reimers & Meyer	1,500	
SEPT. 18.—By the <i>Mohawk</i> =London:		
Otto G. Mayer & Co.	4,500	
Rosenberg, Leowe & Co.	1,500	6,000
SEPT. 20.—By the <i>Vortigern</i> =Singapore:		
Reimers & Meyer	8,800	
BALATA.		
SEPT. 4.—By the <i>St. Paul</i> =Southampton:		
R. F. Downing & Co.	1,100	

CUSTOM HOUSE FIGURES.

PORT OF NEW YORK—AUGUST.

Imports:	POUNDS.	VALUE.
India-rubber	2,556,825	\$1,566,110
Gutta-percha	2,897	2,897
Gutta-jelatang (Pontianak)	638,838	23,091
Total	3,200,670	\$1,612,098
Exports:	POUNDS.	VALUE.
India-rubber	62,437	\$41,583
Reclaimed rubber	68,843	9,393

BOSTON ARRIVALS.

AUG. 2.—By the <i>Chicago</i> =London:		
George A. Alden & Co.—East Indian	5,512	
Crude Rubber Co.—East Indian	4,118	
AUG. 5.—By the <i>Pavonia</i> =Liverpool:		
Livesey & Co.—Africans	22,476	
Reimers & Meyer.—Fine Para	5,748	
AUG. 8.—By the <i>Batavia</i> =Hamburg:		
Livesey & Co.—Africans	14,960	
AUG. 9.—By the <i>Sachem</i> =Liverpool:		
Reimers & Meyer.—Africans	8,600	
Otto G. Mayer & Co.—Africans (7,000 Almédina)	18,944	
AUG. 14.—By the <i>Columbian</i> =London:		
Reimers & Meyer.—East Indian	35,874	

AUG. 15.—By the <i>Herman Winter</i> =New York:		
Reimers & Meyer—Africans	6,614	
[From the <i>Kensington</i> , Antwerp, arrived New York August 8.]		

AUG. 16.—By the <i>Sagamore</i> =Liverpool:		
Reimers & Meyer—Africans	5,736	

AUG. 17.—By the <i>Oakmore</i> =London:		
Crude Rubber Co.—East Indian	32,845	

AUG. 18.—By the <i>Cephalonia</i> =Liverpool:		
George A. Alden & Co.—Fine Para	23,281	

AUG. 18.—By the <i>Derbyshire</i> =Liverpool:		
Samples	14	

AUG. 19.—By the <i>Cephalonia</i> =Liverpool:		
George A. Alden & Co.—Africans	5,643	

AUG. 22.—By the <i>Anglian</i> =London:		
Reimers & Meyer.—Africans	3,618	

AUG. 22.—By the <i>Herman Winter</i> =New York:		
Reimers & Meyer—Africans	14,705	

[From the <i>Noordland</i> , Antwerp, arrived New York September 20.]		
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AUG. 25.—By the <i>Kanana</i> =Liverpool:		
George A. Alden & Co.—Africans	6,000	
Crude Rubber Co.—Africans	4,127	

AUG. 27.—By the <i>Bostonian</i> =London:		
Reimers & Meyer.—Africans	11,228	

AUG. 29.—By the <i>Bay State</i> =Liverpool:		
Reimers & Meyer.—Africans	11,000	

Otto G. Mayer & Co.—Africans		
	11,007	

Livesey & Co.—Africans		
	1,266	

Livesey & Co.—Africans		
	426	

AUG. 30.—By the <i>Cestrian</i> =Liverpool:		
Livesey & Co.—Africans	400	

	POUNDS.	VALUE.
Total for August	249,141	\$162,947
Total for July	142,554	89,636
Total for June	47,404	25,231
Total for May	71,453	47,317
Total for April	204,780	119,618
Total for March	80,170	51,945
Total for February	317,936	197,523
Total for January	247,345	147,488

GUTTA-PERCHA.

AUG. 7.—By the <i>Batavia</i> =Hamburg:		
Reimers & Meyer	1,044	

NEW ORLEANS.

AUGUST.

	POUNDS.	VALUE.
From Honduras	2,902	\$ 1,371
From Nicaragua	35,436	24,511
Total	38,338	\$25,882

AUGUST EXPORTS OF INDIA-RUBBER FROM PARA (KILOGRAMS.)

EXPORTERS.	UNITED STATES.					EUROPE.					TOTAL.
	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	FINE.	MEDIUM.	COARSE.	CAUCHO.	TOTAL.	
Pusinelli, Frösse & Co.	50,830	5,440	55,480	—	111,750	105,165	17,105	18,281	28,406	160,947	280,797
La Rocque da Costa & Co.	56,316	5,446	69,709	—	131,471	83,372	17,708	31,794	4,550	137,424	268,895
Adelbert H. Alden	92,140	17,170	26,520	2,564	148,394	61,200	7,480	38,400	—	107,080	255,474
Rudolf Zietz	—	—	2,560	—	2,560	31,036	10,385	16,440	—	57,861	60,421
The Sears Para Rubber Co.	12,920	2,040	8,530	—	23,490	—	—	—	—	—	23,490
Denis Cronan & Co.	3,570	170	8,800	—	12,540	—	—	—	—	—	12,540
R. Suarez & Co.	—	—	—	—	—	9,323	—	867	—	10,190	10,190
Singlehurst, Brocklehurst & Co.	—	—	—	—	—	5,041	1,350	313	—	6,704	6,704
Pires, Teixeira & Co.	3,072	—	3,012	—	6,084	—	—	—	—	—	6,084
H. A. Astlett	2,208	431	916	—	3,555	—	—	—	—	—	3,555
Kanthack & Co.	—	—	—	—	—	641	1,545	273	—	2,459	2,459
Sundry small shippers	17,850	1,190	8,420	—	27,460	16,830	2,210	7,299	—	26,339	53,799
Direct from Manios	35,613	5,103	9,793	3,162	53,671	98,934	14,750	24,573	8,343	144,600	198,271
Total	274,519	36,990	203,740	5,726	520,975	409,542	72,533	138,240	41,389	661,704	1,182,679

MONTHS.	United States.	England.	Continent.	Total.	MONTHS.	From Iquitos.	From Manios.	From Para.	Total.
January-June	8,085,867	4,948,253	1,459,474	14,493,594	January-June	455,673	4,595,843	9,442,078	14,493,594
July	348,184	588,119	183,917	1,120,220	July	107,079	186,621	826,520	1,120,220
August	520,975	534,666	127,038	1,182,679	August	—	198,271	984,408	1,182,679
Total for 1899	8,955,026	6,071,038	1,770,429	16,796,493	Total for 1899	662,752	4,980,735	11,253,006	16,796,493

1899.

rk:
6,614
w York

5,736

32,845

23,281

14

643

3,618

rk:

14,705

y York

6,000
4,127

11,228

11,000
11,007
1,206
420

400

VALUE.

162,947
89,636
25,231
47,317
119,618
51,945
197,523
147,488

1,044

VALUE.

\$ 1,371
24,511
\$25,882

TAL.

10,797
8,895
5,474
0,421
3,490
2,540
0,190
6,704
6,084
3,555
2,459
3,799
8,271

12,679

tal.

3,594
10,220
12,679
6,493